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THE MEDICAL FORTNIGHTLY
St. Louis, Mo.
1902

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MINUTES.

MORNING SESSION, APRIL 3, 1902.

The meeting opened in the Assembly Hall of the Great Northern Hotel, Thursday morning, April 3, 1902, with the President, Dr. John C. Murphy in the chair.

Dr. Emil Ries, chairman of the Committee of Arrangements, reported that clinics had been held all the week up to today, and would be held on Saturday, but no clinics today and tomorrow.

I wish also to call your attention to the exhibits which you will find in the rooms close by. They have been selected according to the standard of the German Medical Society, and that of the American Medical Association, and are therefore, worthy of the attention of the profession. This evening the profession of Chicago tender a banquet to the visiting members of the Tri-State Medical Society, which will be held in the Great Northern Hotel.

Dr. W. B. LaForce, Secretary, presented his report. Minutes of last meeting read and approved.

Dr. LaForce.—In view of the possibility of the Society having its proceedings published in book form, I would move that Miss Boynton be appointed to report the proceedings of the meeting. Carried.

Dr. Emory Lanphear.—I would move that as active membership in this society should be limited to physicians who reside in Iowa, Illinois and Missouri, the following names be dropped from the Treasurer's book and that they be enrolled upon the Secretary's book as honorary members: Drs. Edwin Walker, Evansville, Ind.; B. Merrill Ricketts, Cincinnati, O.; P. I. Scanlan, Lancaster, Wis.; D. C. R. Pickering, Muscoda, Wis.; W. P. Hartford, Cassville, Wis.; W. W. Pick, Darlington, Wis.; F. H. Dunsmoor, Minneapolis, Minn.; A. Rhu, Marion, O.; Dudley S. Reynolds, Louisville, Ky.; W. N. Wishand, Indianapolis, Ind.; H. O. Walker, Detroit, Mich.; Eugene Smith, Detroit, Mich.; H. Lindley, Atchison, Kan.; A. P. Tenney, Kansas City, Kan.; T. E. Holland, Hot Springs, Ark; T. M. Zane, Osage City, Kan.; W. R. Priest, Concordia, Kan.; A. Beasley, Lyndon, Kan.; D. W. Basham, Neal, Kan. Carried.

I also wish to report the names of the following doctors who claim never to have been members and wish their names dropped: Drs. G. F. Jenkins, Keokuk, Ia.; George W. Davis, Kansas City, Mo.; H. B. Young, Burlington, Ia. (pd. 1901); T. J. Pitner, Jacksonville, Ill.; H. Summa, St. Louis, Mo.; G. F. Lydston, Chicago, Ill.; C. P. Pinckard, Chicago, Ill.

Dr. LaForce—I would move that the names of these gentlemen be dropped from the books of the society. (Motion seconded and carried.)

Dr. Lanphear.—The following doctors claim to have resigned years ago, and want to be dropped: Drs. E. J. Blair, Monmouth, Ill.; no dues paid since 1897. O. C. Sheley, Independence, Mo.; no dues paid since 1897. J. H. Baskett, Hannibal, Mo.; no dues paid since 1897. A. J. Steele, St. Louis, Mo.; no dues paid since 1897. H. T. Patrick, Chicago, Ill.; no dues paid since 1897. A. R. Edwards, Chicago, Ill.; no dues paid since 1897. Elmer Lee, Chicago, Ill.; no dues paid since 1897. E. J. Senn, Chicago, Ill.; no dues paid since 1897.

Upon motion the names of those requesting it, were dropped from the books of the society: Drs. D. L. Newton, Ft. Madison, Ia.; dues paid in full to date. J. E. Logan, Kansas City, Mo.; no dues paid since 1897. H. Rothstein, St. Louis, Mo.; dues paid in full to date. John Ridlon, Chicago, Ill.; no dues paid since 1897. N. S. Craig, Manchester, Ia.; no dues paid since 1898. G. B. Hill, Independence, Ia.; no dues paid since 1898.

The following claim to have paid dues: Drs. R. M. Lapsley, Keokuk, Ia.; in full to 1902. C. J. Hagen, Keokuk, Ia.; in full to 1902. E. O. Sisson ($2.00), Keokuk, Ia.; in full to 1902. J. A. Young, Bonapart, Ia.; in full to 1902. This is probably correct, as Dr. Lapsley, who collected the money at Keokuk last year, reported that $5.00 was collected on dues, the names being lost. Treasurer ordered to give them credit.

Francis B. Bullard, Mt. Pulaski, Ill.; no dues paid since 1898.

Dr. H. N. Moyer.—I move that Dr. Bullard be dropped from membership for non-payment of dues. Carried.

Cash received from retiring Treasurers, Drs. Lapsley and Fairchild	$75.83
From dues of members	77.00
	$152.83
Paid out, as per vouchers	27.40
Balance on hand	$125.43

President appointed Dr. Ohmann-Dumesnil, of St. Louis; Dr J. C. Sullivan, of Cairo, Ill., and Dr. H. A. Leipziger, of Burlington, Iowa, as Auditing Committee, to inspect the books.

Upon motion, the President's address was made the first order of business for the afternoon. Carried.

A Board of Censors, to pass on those who apply for membership, was appointed: Drs. G. H. Eiskamp, Washington, Ia.; Frank P. Norbury, Jacksonville, Ill., and H. Hatch, Quincy, Ill.

Drs. W. B. LaForce, Ottumwa, Ia.; O. B. Campbell, Chicago, and J. Fred Clark, Fairfield, Ia., were appointed Committee on Publication.

Adjourned.

AFTERNOON SESSION, APRIL 3, 1902.

The afternoon session, April 3, opened with Dr. Murphy in the chair.

Following names were recommended for membership: Drs. Alex. C. Smith, Sterling, Ill.; A. H. Shelton, Bloomfield, Ia.; Albert H. Andrews,

Chicago, Ill.; Frank Anthony, Sterling, Ill., and W. J. Williams, Adel, Ia. Upon motion, those were elected to membership.

President's address was then called for.

Dr. Ohmann-Dumesnil reported that the Auditing Committee had gone through the books very carefully, and found everything in balance. He moved that the report be accepted by the society. Carried.

Dr. Murphy appointed a Nominating Committee, consisting of Drs. Emory Lanphear, St. Louis; H. Hatch, Quincy, and H. A. Leipziger, Burlington.

Dr. Emil Ries.—The banquet will take place at 8 o'clock this evening, in the Moorish Cafe, just below here. The members from out of town will need no tickets except their badges; all the members from Chicago are also welcome. Dr. Ferguson has the banquet in charge, and he has arranged a number of amusing and instructive features. I hope you will all come and be happy.

Adjourned.

FRIDAY MORNING SESSION, APRIL 4.

Called to order by Dr. Murphy.

Following names were proposed for membership: Drs. O. H. Yeremian, Batavia, Ill.; Albert B. Hale, Chicago, Ill.; J. W. Hanna, Winfield, Ia.; William Allen Pusey, Chicago, Ill.; Hermann J. Achard, Roselle, Ill.; Fenton B. Turck, Chicago, Ill.; C. H. Anderson, Chicago, Ill.; Conrad Czarna, Chicago, Ill.

Upon motion they were duly elected to membership.

Dr. Baldwin cordially invited the society to Cook County Hospital to a clinic on Skin Diseases and Syphilis.

Dr. F. P. Norbury made a report for the Committee on Constitution and By-Laws. Following are the changes proposed:

CONSTITUTION.

ARTICLE I (NAME).

This association shall be known as the Tri-State Medical Society, and shall exercise its functions by virtue of the voluntary and plighted faith of its members.

ARTICLE II (OBJECT).

The objects of this society are to foster, advance and disseminate medical knowledge; to uphold the honor and maintain the dignity of the medical profession.

ARTICLE III (MEMBERSHIP).

Membership in this society shall be limited to those members of the medical profession who are regular graduates in medicine, and who acknowledge allegiance to the American Medical Association. Furthermore, the membership of this society shall be limited to those physicians and surgeons residing in the southeast part of Iowa, the northeast part of

Missouri, and the adjacent portion of Illinois. All applications for membership shall be referred to the Committee on Credentials, and shall be accompanied by a fee of two dollars.

The Committee on Revision of the Constitution and By-Laws propose the following reconstruction of Article III:

"Membership in this society shall be in accordance with the basis of membership in the American Medical Association, viz., members of the profession in good standing, who are members of a county society in affiliation with the American Medical Association.

"No one under sentence of expulsion, suspension, or other disability in any regularly organized state, county, district, or local medical society, shall be eligible to membership in this association during the existence of such disability.

"All applications for membership shall be made through the Board of Censors. The annual dues shall be two ($2.00) dollars, payable at time of registration, or upon presentation of by-bill by the Treasurer."

ARTICLE IV (MEETINGS).

The regular meetings of this association shall be held on the first Tuesuday of April and October, and at such place as shall be decided upon by vote of the society.

It is proposed to recast Article IV, to read:

"The regular meetings of this association shall be held on the first Tuesday of April, at such place as shall be decided upon by the society."

ARTICLE V (OFFICERS).

The officers of this society shall be a president, two vice-presidents, a secretary and a treasurer, who shall be elected by ballot, to hold their respective offices for the term of one year.

DUTIES OF OFFICERS.

President.

The President shall preside at all meetings of the society, and perform such other duties as parliamentary usage and the vote of the society shall require.

Vice-President.

The senior Vice-President, or, in his absence, the junior Vice-President, shall assist the President in the discharge of his duties, and in the absence of the latter, or at his request, shall officiate in his place.

Secretary.

It shall be the duties of the Secretary to keep a list of the members of the society with their addresses, to give notice of the meetings of the society, to keep a record of its proceedings, to conduct its business correspondence, and perform such other duties as may be required.

Treasurer.

It shall be the duty of the Treasurer to receive and disburse all moneys belonging to the society. He shall pay out no money except on warrants signed by the presiding officer.

It is proposed to recast that part of Article V, regarding officers, to read:

"The officers of this society shall be a president, two vice-presidents, a secretary and a treasurer, a board of censors and a committee of arrangements, who shall be elected by ballot (except committee on arrangements), to hold their respective offices for the term of one year." To that part regarding the duties of the Treasurer, it is proposed to add, "and ordered paid by the society."

The duties of the Board of Censors is to be described as follows:

"*Board of Censors.*

"The Board of Censors shall be composed of three members—one from State of Iowa, one from State of Missouri and one from State of Illinois. This Board shall receive and pass upon all applications for membership."

The following describes the duties of the Committee of Arrangements:

"*Committee of Arrangements.*

"The Chairman of the Committee of Arrangements shall be chosen by the President, and he shall reside at the place of the annual meeting. He may choose as many assistants as he deems necessary—he, with his assistants, will make all arrangements for the annual meeting."

BY-LAWS.

Article I. The order of business at the regular meeting of this society shall at all times be subject to the vote of two-thirds of the members present, and until permanently changed, except when for a time suspended, shall be as follows, viz.:

1. Calling the meeting to order by the President, or, in his absence, by one of the Vice-Presidents.
2. The report of the Committee of Arrangements on the credentials of members, after they have registered their names and address, and the name of the society, or institution they represent, or if in attendance as permanent members.
3. The report of names and the election of members by invitation.
4. Reading the minutes of the last meeting.
5. Reading the notes from absentees.
6. Resolutions introducing new business or instructions to standing committees which shall lie over for consideration.
7. The address of the President at the opening of the March session.
8. The appointment by the President of a committee of three to select the place of the next meeting.

9. Reception of the reports of special committees and voluntary communications.
10. Report of the Treasurer and standing committees.
11. Report of Nominating Committees, election of officers, and selection of delegates to the American Medical Association and other societies.
12. Miscellaneous business..
13. Reading of the minutes and their correction.
14. Adjournment.

Article II. The Committee of Credentials shall receive and examine all aplications for members and letters of introduction presented by those wishing to become members by invitation; recommend the number and length of sessions to be held daily; receive and announce all voluntary communications, and take general supervision of the arrangement of business coming before the meeting, reporting from time, as it may be necessary.

It is proposed to strike out the above Article II, and insert in its place, the following:

"Article II—Section 1. The first part of the morning session, but not for more than thirty minutes, shall be given to such business as may come before the society.

"Sec. 2. No essay or report shall be permitted to occupy more than twenty minutes, without consent of the society.

"Sec. 3. Discussion of papers or reports presented, shall be limited to ten minutes for each speaker, and no member shall speak a second time, except with the unanimous consent of the society.

"Sec. 4. No essay or report or other communication presented to this association shall be published in any but regular medical journals, without the consent of the society."

Article III. Ten members of this society, including two officers, shall constitute a quorum, and may proceed to business.

Article IV. There shall be appointed annually by the incoming president for the next ensuing year, a Committee of Finance, consisting of three members, whose duties it shall be to examine and audit the acounts of the Secretary and Treasurer, to pass upon all bills referred to them, to examine the books and accounts of any officer whenever they may think it necessary, to suggest such means as they may deem expedient with regard to the finances of the society, and to make their report for the past fiscal year immediately after the twelfth order of business is disposed of.

Article V. Any violation of the constitution, by-laws, or code of ethics shall constitute just grounds for impeachment, and any member convicted of such violation, shall be liable to censure, suspension or expulsion. A vote of two-thirds shall be required to censure or suspend and one of three-fourths to expel.

Article VI. In case of charges being preferred against any member, they shall immediately be referred, without discussion, to the Committee

on Medical Ethics, who shall furnish the accused with a written copy, and, if he desires, shall afford him an opportunity of knowing the character of the evidence against him; shall receive and consider such as he may desire to present, and shall make their report to the society as soon as practicable. If they consider it necessary, or the society direct, they shall accompany their report with a synopsis or full statement of the evidence. The vote shall be taken without discussion or delay, unless some member desires explanation from the committee upon a point definitely stated.

Article VII. The meetings of this society shall be conducted according to parliamentary rules, and the decisions of the President shall be respected, unless properly appealed from and reversed by the society. A motion or resolution shall be reduced to writing, if any member desires it.

Article VIII. Any of the foregoing articles of these by-laws, may be amended or temporarily suspended, by a vote of three-fourths of the members present at any meeting.

Dr. LaForce.—I move that these resolutions for reconstruction of the constitution and by-laws, be adopted. There has been some trouble about the constitution and by-laws, due to the fact that they were lost for some time, and the society was running its meetings by precedent. A committee has been appointed to revise them, as we thought it important to revise the constitution and by-laws to make them more harmonious with the constitution and by-laws of the American Medical Association, especially as to membership. Some of the members of this association who are patriotic in their devotion to the National Association, are in favor of making the membership dependent upon membership in State, county, or other societies, and this is one of the main points of the revision. The publishing of proceedings will require a little strictness in regard to the paying of dues. We have had some very liberal offers for the publishing of the proceedings, but there will be some expense in giving each member a copy, and this will be met by the payment of $2.00 in the annual dues, so I think it is desirable to publish the proceedings, as it will give more importance to the association.

Motion seconded.

Dr. Murphy.—All in favor of this revision and reconstruction of the constitution and by-laws, will please stand. Carried.

AFTERNOON SESSION, APRIL 4.

The afternoon session of the Tri-State Medical meeting opened at 2 o'clock, April 4, 1902, with the President presiding.

Dr. E. C. Stanton, for the Committee on Expense, made a report.

Dr. Ries.—I move you, Mr. President, that a vote of thanks be extended to Dr. Stanton for his services.

Seconded by Dr. LaForce and carried.

Dr. W. L. Downing, of Moulton, Iowa, and Dr. Tichenor, of Chicago, were appointed to act as auditing committee.

Dr. Lanphear, Chairman of the Nominating Committee, announced the following officers of the Tri-State Medical Society for the coming year:

President—Dr. Alex. H. Ferguson, Chicago.
First Vice-President—Dr. Flavel B. Tiffany, of St. Louis.
Second Vice-President—Dr J. C. Sullivan, of Cairo, Ill.
Secretary—Dr. W. B. LaForce, of Ottumwa, Ia.
Treasurer—Dr. Emory Lanphear, of St. Louis.

The place mentioned for the next meeting of the society, is Hannibal, Mo.

Dr. H. Hatch—If there are no objections, I move that the Secretary be empowered to cast a vote for the entire ticket. Carried.

Drs. H. A. Leipziger and C. H. Andersen were appointed as a committee to escort the new President to the chair.

The next paper on the program Dr. F. M. Fuller, of Keokuk. Dr. Fuller is not present. If there is no more official business to be brought before the society, we will listen to the paper by Dr. W. L. Downing on "A Few Days with a Country Practitioner."

By request of Dr. Downing, his paper was read by title.

Dr. Ries, for the Committee of Arrangements, with Dr. Stanton on exhibits, and Dr. Ferguson on entertainment, made a report.

Report accepted.

Dr. Tichenor reads report. "Mr. President: We, your Auditing Committee, beg to report that we have examined the accounts of the Secretary and Committee of Arrangements, and find same correct.

Respectfully submitted,

W. A. TICHENOR,
W. L. DOWNING.

Accepted.

Upon motion, a vote of thanks was extended Dr. Ries for his efficient work on the Committee of Arrangements.

Following resolution was read and adopted:

"Resolved, That we are in favor of introducing into the Medical Schools of the United States, the practical teaching of the three subjects: Dietetics, Physio-Mechanical Therapeutics and Hydrotherapy."

Dr. Ferguson was now escorted to the chair, and Dr. Murphy said: "I have been called upon to do many pleasant things during the course of my rather short career, but there is nothing that affords me greater pleasure than to do anything that can add in any measure to the great renown that Dr. Ferguson has gained in this world. We will have at the head of our organization now, a gentleman whose fame as a surgeon is only limited by the range of civilization. Everywhere where surgery is known, from the Atlantic to the Pacific and from British Columbia to the Gulf of Mexico, the name of Alexander Hugh Ferguson is almost a household word. I have the honor of introducing Dr. Ferguson.

Dr. Ferguson.—I wish to thank you, gentlemen, for the confidence you have reposed in me, and to thank the President for his kind remarks.

Dr. Lanphear.—I have to leave this moment, and would like to read an offer which we have received for the publication of the proceedings of this meeting which has been made by Dr. F. P. Norbury, editor of the MEDICAL FORTNIGHTLY.

Dr. LaForce.—Before the last paper is read, I should like to receive authority from the society to audit two bills when they are presented—one to the stenographer for taking notes of the discussion and minutes, and the other to pay for the copies of the proceedings after they are printed by the FORTNIGHTLY in accordance with its proposition.

Moved and seconded that the Treasurer be authorized to pay the bill of the stenographer and the bill of the Publication Committee. Carried.

Moved and seconded that the FORTNIGHTLY proposition be accepted, with the amendment that papers may be furnished simultaneously to other journals. Carried.

Dr. Andersen.—I move that the President get a vote of thanks for the way in which he has conducted this meeting, and for his smiling manner.

Dr. Ferguson.—All those in favor of this motion that a vote of thanks be extended to the retiring President, will please stand.

Unanimously carried.

Dr. Murphy.—This is a very beautiful tribute to receive from the President-elect. Individually, I feel that everybody has contributed their share to making this meeting a success. My own efforts were of feeble character compared with those of other officers and members. I thank you all, and appreciate the courtesy shown me during this meeting.

Meeting adjourned.

PAPERS READ BEFORE THE SOCIETY.

PRESIDENT'S ADDRESS.

BY JOHN C. MURPHY, M. D.,

ST. LOUIS, MO.

MR. CHAIRMAN and Gentlemen of the Tri-State Medical Society:—I wish to express my high appreciation of the honor you have conferred upon me in electing me to the highest office in this society. It is an honor that any man should be proud of, and I value it beyond any other distinction of my professional career. It is the custom for the retiring president to address the society on some subject of interest to us all, and I have chosen to make a few remarks on higher medical education, which I hope will not come amiss at this time. I feel that this society as an exponent of advanced medicine should place itself on record in approval of anything that would tend to elevation of the profession. The vital factors in medical education are the teacher, the student and the college. To

the first named we will now give consideration. A man who aspires to teach others should himself have a thorough understanding of what he attempts to teach, and should be chosen on account of his special knowledge of some particular subject, and not on account of his ability to buy stock in the college. I have known instances where a professor would start the school year as a teacher of chemistry or histology, and end it as a full fledged professor of gynecology or abdominal surgery. It is seldom that nature endows one individual with such versatile talents as to make him equally successful along all lines. Intellectual development is of slow growth and cannot be accomplished by any short cut or instantaneous process. It is only by concentration in some particular channel that one can hope to become a peer among his fellows and rise above mediocrity. In the large universities a man who hopes to become a professor has to first obtain his A. M. or Ph. D., then he begins as a tutor in his particular branch, later becomes a lecturer, and finally after a process of several years he is made a professor. He may have had to spend from ten to fifteen years as an understudy before he is considered qualified to be the head of a department, and in order to retain his position and show that he is progressive he must publish some original work at stated intervals.

If such requirements are exacted of general educators how much the more necessary is it that the medical teacher should have a proper preliminary training. No man can hope to turn out a finished product, unless he himself is finished. The professor of medicine is not preparing his pupil to become a mere artisan, he is fitting him for the noblest work of mankind; to alleviate human suffering; to be the mediator between life and death. He is God's architect who gives him the solid ground of man's intellect, to erect thereon a monument that will endure for all time, for good or evil. We are all imitators; the student watches carefully the every movement of the master, his personal attributes as well as his professional attainments, and he tries to follow in his footsteps, which simply serves to illustrate the great influence the teacher has in molding the character of the future doctor, aye I might even say his successor, as the student of today may be the teacher of tomorrow. So you see the great responsibility that rests upon the medical educator. If his work is well done as he approaches the end of his career and takes a retrospective glance down the vista of his life, he sees here and there young intellectual giants of his own creation, ready to continue the work he has so well begun, to perpetuate his name, and enjoy and transmit the heritage of his genius. And he closes his eyes in that sweet dreamless slumber called death, happy in the thought of a work well done, and confident of a higher and more lasting reward in the spiritual life to come.

We must now consider the student. It is he who is the very center of the arch; the keystone of the structure without which all must fall.

This age abounds with many opportunites for the earnest worker along the various avenues of science, but there are none which offer greater opportunities for renown than the science of medicine, the science of the saving of human life. We read of the Hall of Fame where tablets are graven in commemoration of great generals and heroes of wars, great

statesmen and inventors even of weapons of destruction, with one discharge of which they could destroy a score or more of their fellow-creatures. I believe my friends that fame as it is usually understood is a misnomer. Men should be famous for the good they do to others. There are more heroes in the medical profession than in all the armies of the world. Men who every day risk their lives amidst scenes of pestilence and disease that others may live. The man who goes forth to wage war on disease is a greater hero than Alexander the Great or Julius Caesar. The doctor oft steals out in the stilly hours of early morn when nature sleeps and all is quiet, his footstep keeps time to the beating of his heart. He may be going to fight a hand to hand conflict with death, or perchance to usher into the world a spotless infant soul fresh from the hands of God. His greatest acts of heroism and self-sacrifice are ofttimes little appreciated, and known to none but himself. His reward may be only the knowledge of a work well done.

So I would say to the prospective medical student; let him think well on what he is about to undertake, before he begins to dissect others, let him metaphorically dissect himself, and see if he possesses the moral and intellectual attributes necessary to success. A proper preliminary education is as requisite to the student of medicine as fertilizer is to the soil. The soil of the brain must be carefully prepared for the seed if you would reap a bountiful harvest. Whoever heard of an American beauty rose growing in a desert? To be sure something will grow there, but it will not be beautiful, instead you will see wild cacti and sage brush. The product of the soil is like unto itself, either beautiful and cultured or rough and uncouth. There is no midway, if we have that within us which is capable of development we will by force of superior intelligence forge to the front and occupy a position in the front rank. If not we will surely lose ground, and sooner or later will gravitate into a state of oblivion from which there is no hope of rescue. So let those who contemplate devoting their lives to the profession of medicine bring to its study a brain that is already fertile from a proper preliminary cultivation. And then they can rush into the fight undaunted, and say to themselves, in the language of the ancients knights, "Our business is like men to fight, and hero-like to die." But they will not die, but will fight on to the end and come out of the strife wreathed in the laurels of victory, a credit to themselves, their profession and their country.

This country can boast of some of the greatest medical centers in the world, but unfortunately we also possess some of the poorest. It is not necessary for the welfare of humanity that every village and hamlet should have a medical college. To my mind the medical college should not exist as a separate, distinct institution, but should be a department of a university for general education. If the past century has been pregnant with promise of great scientific advance it remains for the present one to still farther nurture the bud of knowledge until it too develops, not. mature, perfection. The science of medicine and surgery while it has almost reached a perfect and exact stage still has many hidden mysteries yet to be revealed.

The world of the microscope alone is only half explored, and holds many secrets for future generations to unfold. If there are to be other Virchows, other Senns, other Kellys and other Oslers to take their places when they are gone it remains for the medical college of today to furnish the material out of which they are to be evolved. The whole future of medicine and surgery for centuries to come depends on the medical educators of today. The training of a doctor is like the training of an infant, it must begin with his ancestors in order to be successful. The parent from whom he comes must be healthy in mind and body if the offspring would be likewise. The course of four years in college is to the student what the period of prenatal existence is to the infant, a time of development and preparation for an independent life. What does the term alma mater signify but loving mother. If we would have our children do us credit we must have a care as to the kind of material we chose for their making. We must not be like the fishermen who let down their drag-nets and gather in all that are caught in their meshes. Unfortunately, too, many colleges pursue this method and cast their nets in the form of enticing literature to tempt the smith from his forge, and the husbandman from his plow, where nature intended them to remain. They come, they see, but they conquer not. Their cherished hopes are blasted; their desires unsatisfied; their time wasted. All they have to show for their endeavors is a worthless piece of parchment bestowing a worthless title. The great percentage of them must go back to the forge and the plow or starve.

I speak thus from seeing so many men allured into the study of medicine (on account of the literature spread broadcast by the colleges) who have not had even an ordinary school education as a primary requisite. I was present a few years ago at a college commencement where 214 students were graduated with the degree of M. D. There had been no failures. I do not believe that such a number of men gathered in from the highways and by ways could successfully pass an examination of any severity. What is the secret? It is the commercialism which has crept in to the medical colleges. Graduates are turned out who have no ability themselves, and they become mere drummers for the college professors. The more half-educated men graduated the better it is for Prof. Laboratory and the other distinguished specialists. If the graduates were well educated gentlemen it might work a hardship on the professor's bank accounts, but what a boon it would be to the eighty millions of unsuspecting public. When all medical colleges become departments in endowed universities, and the professors are paid for their services, the sooner will commercialism be eliminated, and we will soon have less colleges and better doctors. And the medical profession will not be long in again establishing itself upon the high pedestal of honor it once occupied. The march of disease will be stayed, and as a people we will become as were the ancient Greeks, marvels of beauty and towers of moral, intellectual and physical strength. And we as physicians will have the welfare of a grand and glorious nation in our keeping.

CATARACT OPERATION IN THE VERY OLD.

By Albert B. Hale, M. D.,
CHICAGO.

METHUSELAH lived to be 936 years old. Tradition does not state whether or not he was blind, nor do we know what was the condition of ophthalmology at his epoch, yet I dare say that the lens would have shown some opacity if not a mature cataract in one eye or the other. Had the good man lived to be 1000 or 2000 years, sooner or later the time would come when the lens would have ripened, for I believe that a cataract is inevitable to old age, although we may not know what is the factor in old age which favors opacification.

Within the ordinary limits of modern human life opacities in the lens become more and more frequent as age advances, so that a goodly proportion (6 per cent to 12 per cent, Norris and Oliver's System, Vol. 4, p. 323) of eyes beyond the sixties either show spokes or areas of dullness in the lens, or they become blind by this purely mechanical interference with the passage of light rays to the retina.

Fortunately, however, the eye is more amenable to the laws of physics and more under the control of mechanics than any other organ of the body. A stiff joint is not a poorly acting machine—we cannot take it apart or loosen a valve or pour oil into a rusty hinge; we can treat it only through the blood; but though we cannot influence the lens through this fluid—at least not to any appreciable extent—we possess the power to remove this obstruction to light and to replace the old worn out lens of the eye by a new, transparent and useful equivalent of glass. The only difference between the problem in the workshop and that in the hospital lies in the vital connection between the eye and the body, of which it forms a part. Our mechanical repair may be accurate and timely—but how nearly worn out is the organ, how much resistance has the individual to the interference of surgery, as extreme old age advances?

As the technique of surgery improves, operations on the body at one time considered formidable or impossible are now done with security and even ease, so that a patient need not suffer if pain is the accompaniment of his illness. In the same way, the old patient with cataract need not be hopeless nor grope his way through the feeble remaining years of life, resigned, as is often said, to the will of God that blindness is often added to the other or unavoidable ills of senility.

Celcius warned against the catara ct operation in old age (Hirschberg Geschichte der Augenheilkunde i. A., p. 183). Reclination has here held its own (Centralblatt fur practisch. Augenheilkunde, August, 1901, p. 232)

Old age cannot be well defined; some persons are agile and youthful at seventy, others are decrepit and helpless at sixty. Much depends upon the environment, the heredity factor and the work they have been obliged to perform in earlier life. Yet I trust that no one will gainsay me if I begin at eighty to list the individual among the very aged.

It is then a few cases of cataract operations on persons over eighty which I wish to report and to compare them with results obtained by operation on patients not much beyond their prime.

My *first case* was a man of 91, Mr. D. (365), full-blooded, childish. Right eye—V. fingers at 1 meter, maturing cataract. Left eye—V. good projection, but mature cataract. There was no astigmatism in either eye. On the right I made a linear incision with iridectomy; on opening the capsule with the cystotome the lens disappeared into the vitreous, and some vitreous escaped. This showed a rupture of the suspensory ligament and such a relaxed condition of the eye that I did not dare use a spoon. The wound healed promptly with no pain but the iris would not react to atropin, and the capsule was so thick that vision remained as it was before. He died of veritable old age before he could be made to understand that I wished to try capsulotomy, and an operation on the other eye.

Second Case.—Man of 81, Mr. P. (662a), active, intelligent. Right eye—V. projection good, fully mature cataract. Left eye—V. fingers at 2 meters immature cataract. In the right eye there was astigmatism of ½ D., axis 180 degrees. The iris reacted imperfectly to atropin. I operated with iridectomy, successfully. Healing progressed smoothly with practically no capsular opacity remaining. When the first prescription for a lens was given the pupil was quite clear, the fundus normal, but the ophthalmometer showed an astigmatism of 10 D. at axis 180 degrees. V. (1-45 naked eye) was 6-15 by +10 D. +6.0 Dcyl., axis 180 deg., and by adding +4.0 D. to this, he could read J. 4 and 5, play cards and is quite independent.

Third Case.—Woman of 81, Mrs. B. (706), feeble in body and not active in mind. Ten years before she had had an inflammation in the left eye (iritis?) cured by a charm! but all sight had been lost. She had not seen well with even the right eye for years, but for some months the remaining sight had been rapidly disappearing. Right eye—V. moderate light projection, mature cataract. Left eye—V. amaurosis. There was no astigmatism in either eye. Operation on the right eye with iridectomy, releasing large nucleolus.

The reaction about the lids was severe, due to the pressure of the speculum and to the general flabbiness of the tissues, but the wound healed normally with no iritis, so that after ten days she wore smoked glasses. The capsule was somewhat thick, but what fundus could be seen was normal. Two weeks after the operation the ophthalmometer showed 10 to 15 D. of astigmatism, but the axis could not be exactly determined. In this case vision was at first poor, as the retina had to be re-educated, for she had been blind so long that the retinal function lay dormant with the increasing feebleness of the patient. She was obliged to go to her home in the country before I could prescribe the proper glass, but I have heard from her a year after the operation, and she could see and read a bit, even wthout correction of the astigmatism. I think I am entitled to enter her vision as 6-18, although I cannot prove it.

Fourth Case.—Woman of 80, Mrs. T. (723), hard-working, active, mother of twelve children. Eyes began to fail four years ago. Right eye—V. fingers slowly at one meter; mature cataract. Left eye—V. fingers slowly at one meter; immature cataract, but signs of old iritis with visible choroidal changes. There was 1 D. of astigmatism axis 160 degrees in the right eye, and the iris responded smoothly and full to euphthalmin. I operated on this eye with iridectomy. Iritis followed but subsided, leaving the cornea above the coloboma usurped by sclerotic tissue and some iritic adhesions to the capsule. Six months after the operation the ophthalmometer showed 4.0 D. of astigmatism axis 170 degrees. With +10.0 D. +3.0 Dcyl, axis 170 degrees V. =3-30; by adding +4.0 D. she threads a needle, and as this was her greatest hope before the operation, she was quite satisfied.

Fifth Case.—Woman, age given at 120, but authentic evidence that she was over 100. Mrs. J. (734) negress who had had hard physical labor all her life, besides being the mother of 13 children; she smoked up to one year ago, and then gave it up on account of the eyes. General health good, active mind, but very sclerotic arteries. Right eye—V. fingers at one meter, maturing cataract, old iritis. Left eye—V. good projection, lens thoroughly opaque, iris reacts well to euphthalmin. The left eye had astigmatism of ½ D. axis 180 degrees. I operated with a broad iridectomy and released a large nucleous; the wound was slow to heal, and the anterior chamber slow to refill, but there was no reaction; the media were decently clear, but the capsule showed some dffuse cloudiness. Six months after the operation the ophthalmometer showed an astigmatism of 6.0 D. axis 30 degrees, and there was V.=4-30 (illiterate) by +10.0 D.=+2.0 Dcyl. axis 30 degrees. Even without the lens she sees better with this eye than with the left.

Sixth Case.—Woman of 80, Mrs. W.(735) in good health, mother of five children. Eye trouble for thirty years, and for ten years the left eye has been useless. Right eye—V. 6-18, some areas of opacity. Left eye—V. poor light projection, pupil dilates well to euphthalmin, intensely white capsule. The left eye had no astigmatism. I operated with an iridectomy, but on opening the capsule the release of the black nucleus was followed by a gush of thick, chalky looking cortical matter, leaving behind the thick, opaque capsule. Healing was normal, but the capsular opening was so small that no improvement in vision was obtained. A second operation was not permitted.

Here I have six cases, four women and two men. Two at 80; 2 at 81; 1 at 91, and 1 at say 100.

Good results	2
Satisfactory results	1
Poor results	1
Disastrous results	1
Incomplete results	1

Greater experience and boldness might have resulted in better results in cases 1 and 6. Technique is here even more important than in younger

and more robust patients, and yet this does not compare discreditably with many reports of operation upon patients in the decades between 50 and 70.

My conclusions from this experience are as follows:

1. Tissues in the old are apt to be friable and the cataract overripe.
2. The optic nerve and retina need not necessarily be impaired and an operation gives promise of materially improving vision.
3. Patients stand the operation surprisingly well, and it is followed by but little reaction.
4. Every case of cataract in the very old, if the retina and nerve seem to functionate well, should be given the chance of an operation.
5. It should be carefully remembered that in the very old the suspensory ligament is apt to rupture, the lens to be overripe and the capsule to be unusually thick and tough; when operating on such a patient, therefore, everything necessary to meet these emergencies should be in readiness.
6. Repair proceeds slowly, but as securely as at an earlier age.

The experience of others with greater opportunity is not uninteresting. Mendel reports from Hirschberg's clinic (Centralblatt fuer practisch. Augenheilkunde, August, 1901, p. 232), 36 cases between 80 and 90, with 94 per cent of satisfactory vision, but no accurate measurements are given. He adds there is no need for unfavorable prognosis in the operation on the very old.

Hasket Derby, in the Boston Medical and Surgical Journal, September 26, 1895, page 319, reports 34 cases between 80 and 90, with 85 per cent entire success, 6 per cent partial success, 6 per cent failure and 3 per cent unrecorded. His measurements are not precise, but the standard for entire success is one-half.

Charles Higgins in the London Lancet for August 11, 1894, reports from Guy's Hospital 19 cases between 80 and 90 with 17 successes (in a surgical sense,) but his visual standard ranges from 6-36 to 6-12.

103 State street.

A SPORADIC CASE OF INFANTILE MYXEDEMA RESULTING IN A CRETINOID CONDITION.

By James Frederick Clarke, M. D., and William McGrew.

FAIRFIELD, IOWA.

THE subject of the accompanying photographs and brief history, Emma M. M., is as far as reported, a unique case for Iowa. (Cases 34 and 35, Osler's "Sporadic Cretinism in America," reported by Dr. Kessel, not being of the infantile type).

This girl was born on a farm in Van Buren county, Iowa, February 15, 1881, the third of five children, the brothers and sisters being normal in all respects. A careful study of the family shows no hereditary tenden-

Nine months.

cies to abnormalities, mental or physical, and no other case of abnormality of the thyroid gland. The home is in a healthful location and in a sanitary condition. The mother at the time of conception and during pregnancy had good health and no accident or injury that could be remembered, except that during the fourth month she drew a heavy bucket of water from the well, which act brought on a slight uterine hemorrhage. She remained in bed a few days thereafter and felt no bad effects from the accident. The labor was short and normal and without instrumental interference. The baby was well developed and not noticeably different from the other children, except that she weighed but eight pounds, while all the other children weighed nine or ten pounds at birth.

Fifteen months.

Three years.

Seven years.

Nine years.

Seventeen years.

December 10, 1901, taller sister, 17 years.
E. M. M., 20 years and 10 months.

20 years and 4 months. June 24, 1901.
Treatment begun.

20 years and 4 months. June 24, 1901.
Treatment begun. (Side view.)

The mother nursed this child for two years. Nothing abnormal was noticed in her development until she was one year old. Her appetite, however, was poor from birth. At the end of the first year the feet became swollen and pitted on pressure. The family doctor called the trouble "dropsy." The child began to walk at 15 months, as did the other children. She began to talk at 12 months; in this not differing from her brothers and sisters, but she did not cut her first tooth until one year of age, while the other children all began the first dentition at about four months. Between the first and third year the "bloating" extended from the feet to the body and then to the face. the swelling finally leaving the feet.

During childhood she had the mumps, whooping-cough and chicken-pox, and at two years she had "malaria, which lasted three or four weeks. This was a continued fever of a mild type, acquired while on a visit to Kansas, and it soon subsided on her return home.

From the end of the first year the mother noticed less animation than in the other children, but this child played about in a natural way until three years of age, at which time she learned her letters. After her third birthday she preferred to sit still and watch the other children play. She grew in height and weight as other children to the third year, and continued growth, though at a much slower rate, to the sixth year. From then on she increased none in height until after thyroid feeding was begun after her twentieth year. Her weight increased some, until a maximum of 40 pounds was reached about her sixteenth (?) year. It remained at this point with little variation until the late treatment was begun. She always had a good growth of hair on the head.

At 17 years of age her second teeth began to cut, but of these only three penetrated the gums until after the thyroid treatment. From her tenth year on she would sit in her chair all the time unless urged to move, though able, she did not care to walk. She spoke rarely, and only in answer to questions, saying she was "too tired to talk." She never had convulsions and had no sickness not already mentioned. There was no salivation, no strabismus and no menstruation. The appetite, never good, became very poor at about the tenth year, and with the small eating was a persistent constipation, relieved by medicines. She depended mainly on bread and potatoes for food, and had a craving for acid fruits and sour foods, such as pickles. She did not eat meat, being unable to chew it. The kidneys and bladder were always in normal condition, so far as the mother could tell. During the last year before the treatment was begun the stupor, constipation and general condition "grew much worse."

On June 24, 1901, this girl, 20 years and 4 months old, was first seen by us professionally, and thyroid feeding was begun June 30, 1901. One-half of a thyroid tablet was given after each meal, and this was gradually increased until at the end of two weeks she was taking two tablets after each meal (or the equivalent of 30 grains of the fresh gland, in a day).

The patient's condition June 24, 1901, was as follows: Height, in shoes, 36½ inches; weight with clothing, 39 pounds. She appears like a child of 5 or 6 years of age, but expressionless, apathetic and with the usual characteristics of cretinism. The skin is dry, harsh and sallow; the

September 4, 1901. Thirteen weeks' treatment.

September 4, 1901. Thirteen weeks' treatment. (Side view.)

October 24, 1901. Twenty weeks' treatment.

October 24, 1901. Twenty weeks' treatment. (Side view.)

December 10, 1901. Twenty-seven weeks'-treatment.

December 10, 1901. Twenty-seven weeks' treatment. (Side view.)

March 25, 1902. Nine months' treatment.

March 25, 1902. Nine months' treatment. (Side view.)

subcutaneous tissues are myxedematous. The sutures and fontanelli of the head have closed. The eyes are half open, but vision and hearing are not impaired. The mouth is large, lips thick, nose flattened and broad and the skin of the face wrinkled. The hair is dry, long and abundant, but coarse and lifeless. Three second teeth and most of the first are present, though the latter are badly decayed. The neck is short and thick, with no discoverable thyroid gland. The shoulders are stooped. The belly is large and tumid and the legs are bowed. There is no salivation; the tongue does not protrude. She sits in an apathetic condition and speaks only in answer to questions, but knows many words. She walks about only when urged to do so, and then with a waddling gait. There are no signs of puberty. The pulse is 80 and weak. The disposition is good; she does not cry; the voice is low, harsh and characteristic of the condition. Two weeks after the beginning of the thyroid feeding, improvement was noticed. The appetite became better; there was a loss of weight, more animation and a change in expression. The change, which has been continuous, is shown best by the photographs taken at intervals, and by the following table of variations in height and weight:

	WEIGHT	HEIGHT
June 24, 1901	39 pounds	36½ inches
July 19, 1901	38¼ "	36¼ "
August 12, 1901	35⅛ "	36¼ "
September 4, 1901	36 "	37 "
october 25, 1901	39 "	37⅛ "
December 30, 1901	40 "	38⅛ "
March 25, 1902	41 "	39¼ "
Normal for girl five years of age	39⅘ "	41 "

Increase in height, 2¾ inches in nine months.

The normal increase for a girl from the fifth to sixth year is 1.94 inches, then two inches for each year to the tenth; from the eleventh to the twelfth is 2.51. There is no increase after the seventeenth year. (STEPHENSON.)

Clinical Notes.—October 25, 1901. The old hair is falling out and new, light, fine hair is coming in. She now plays about all the time with other children, and appears like a child five years old. She laughs, smiles often, talks more and eats heartily. No laxatives have been needed for the past two months. There have been no bad effects at any time from the thyroid feeding. The myxedematous condition has, to a great extent, disappeared. The skin is soft and normal.

March 25, 1902.—The old hair is all replaced by a fine, soft hair, showing none of the former harshness. The first teeth have all been replaced by the second dentition. The child now smiles frequently, talks almost continuously at her home, and shows animation and intelligence. The voice is still low, but much changed. The legs are yet bowed and the gait waddling. She has worn out in a short time the first pair of shoes ever so worn, since she has never before walked enough to injure her shoes. There is no growth of pubic hair, and their are no signs of menstruation. The appetite is very good and the general health excellent.

Perhaps the chief value of this report is due to the fact that the intelligence of the mother of the patient has enabled us to record a history of considerable detail. The quite complete series of photographs show the normal condition as a baby, the gradual degeneration from the third year,

and then the marked improvement following thyroid feeding. It has been thought unnecessary to give any more detailed account of characters typical to the condition and well studied in many other cases. The lessening in the rapidity of growth now leads us to be guarded in prognosis as to any remarkable increase in height to be attained, but if nothing more were accomplished than we at present see, the debt of the mother's gratitude to Murray and others who have shown the value of the thyroid treatment, should be unbounded, for in place of a vegetating imbecile, she has a bright and happy child who fills the home with joy.

DISCUSSION.

Dr. F. P. Norbury: I have been much interested in the report of this case. In 1895 I was consulted by Dr. Vinke, of St. Charles, Mo., regarding such a patient; a boy not quite as old as the patient reported by Dr. Clarke. He was about nine years of age, the son of a woodsman living down on the bottom lands of the Missouri River. Tnyrodin made by Parke, Davis & Co. was prescribed. The boy, a cretin imbecile from birth, by the continued feeding of thyrodin, became a fairly bright child; he lost most all of the characteristics of his former state; he lost in weight; gained in height; the scurfy skin which had been very thick and dirty, became more normal in appearance; the hair which had been dry and coarse was replaced by a growth of fine normal hair. What his condition is now, I do not know, but the patient's friends were informed that the feeding of the thyrodin must be continuous; that it had to be a feature of the whole life history of this case. The results of thyroid feeding have been very successful and remarkable in these cases. The first cases reported in this country were by Dr. Osler. The case I mention was the first one reported west of the Mississippi River.

Dr. Harold N. Moyer: There is really nothing much to discuss about the case we have just heard reported. It is, in many respects, quite out of the ordinary. The doctor is to be congratulated on having caught so rare a bird and photographed it so enthusiastically.

Dr. J. Fred Clarke: I believe that I should say the same, Mr President.

MULTIPLE NEURITIS.

By Daniel R. Brower, M. D., LL. D.,
CHICAGO,
Professor of Mental and Nervous Diseases, Rush Medical College, Etc., Etc., Etc.

THE diagnosis of multiple neuritis in its classical form is a very simple proposition, but at the bedside there are but few classical cases, so that in this disease, as in many others, errors in diagnosis are not infrequent, and as the prognosis of multiple neuritis is usually favorable under proper treatment, and the prognosis of the diseases with which it is usually confounded is very bad, a correct diagnosis is a matter of great importance. The disease is the result of some kind of poison, and while the action of this agent may be limited to the peripheral portion of the neurons, yet there are cases in which the cell body as well is impaired, and this also creates confusion in diagnosis. The principal poisons producing a multiple peripheral neuritis are alcohol, lead, arsenic, and the toxins of the micro-organisms, especially those that produce diphtheria, influenza, typhoid fever, gonorrhea, syphilis, leprosy and beri beri.

In the typical cases of multiple neuritis we have a symmetrical localization of motor, sensory and vasomotor symptoms. In earlier stages the symptoms are the result of irritation of the nerve, while the later symptoms are those of destruction. Thus we have in the beginning muscular cramps and spasms shooting pains and paraesthesia. Later on paralysis and anesthesia. If all the cases were thus characterized, there would never be any difficulty in diagnosis, but, unfortunately, in some cases the motor phenomena dominate or stand alone; in other cases the sensory symptoms are equally prominent, and are associated with a very small amount of muscular weakness; while in still other cases the vasomotor phenomena eclipse the other symptoms. As examples of the distinctly motor type, we have lead paralysis, Landry's paralysis, and tetany. Of the sensory type, pseudo-tabes and leprosy. Of the vasomotor type, erythromelalgia and Reynaud's disease.

The common form of multiple neuritis is that which has its etiology in alcoholism, and this ordinarily presents to us the mixed type, the type in which the motor, sensory and vasomotor parts are each more or less involved. The diagnosis of alcoholic neuritis will be based upon the evidences of chronic alcoholic poisoning, found in the digestive, circulatory and nervous systems. The onset is usually insidious; weeks or months being necessary for its full development; the earlier symptoms are numbness, tingling, muscular cramps, tremors and vasomotor disturbances, such as either cold and clammy hands or feet, or a hot and burning sensation in the same extremities. Progression of the disease is characterized by more intense pains and nerve and muscular tenderness on pressure, followed by cutaneous anesthesia, and we have frequently this anesthesia with muscular hyperesthesia. The paralysis that soon results is a quadriplegia, with foot-drop and wrist-drop. In the earlier stages knee-jerk is often exaggerated, and there is hyper-extension of the great toes, but these

soon disappear, and patellar reflex is lost and the toes become flexed. With this paralysis there is a progressive atrophy; the muscles soon lose, in pronounced cases, reaction to faradism, and they require strong interrupted galvanic currents to produce contraction. The very early appearance of these electrical reactions within a week or ten days are a valuable aid to the differentiation of multiple neuritis from anterior poliomyelitis, in which latter disease these electrical reactions are established only after a much greater interval of time. The escape of the muscles of the trunk in all the ordinary cases, and the control the patient has over the sphincters, of the bladder and rectum, are valuable aids in differentiation from myelitis.

In a few cases there is a very marked psychic disturbance, which may be either in the way of exaltation or depression, both alike accompanied with marked failure in memory. These psychic symptoms are probably as much a part of the general alcoholism as they are of the special manifestations of the neuritis.

Arsenical neuritis very much resembles alcoholic neuritis. It is a very rare form of the disease in my experience. The differentiation from alcoholic neuritis was made in the few cases I have seen by the absence of any evidences of alcoholism, by the edema of the eyelids, pigmentation, the epigastric pain and the nausea. These cases were the result of the continued use of large doses of Fowler's solution, and in these cases the tremors were more marked than in alcoholic neuritis, and the knee-jerks and typical reflexes were present. Some cases are the result of a combined action of alcohol and arsenic, as witness the remarkable epidemic that occurred in Manchester, England, in 1900 from beer. The source of arsenic was traced to sugar used in brewing (Journal A. M. A., January 26,1901). Another good example of the mixed type of multiple neuritis is beri beri, and the intimate association which this country now has with the Oriental peoples where this disease is by no means uncommon makes it quite necessary for the physician to be familiar with its general aspect. It is a specific form, the precise poison producing it being still in doubt. Recent investigation by Ross (British Medical Journal, Feb. 8, 1902) would seem to indicate that arsenic may be the principal etiologic factor, although hitherto it has been regarded as microbic. It is characterized by edema of connective tissue, effusion in the serous cavities, the special liability to complication of the phrenic and pneumogastric nerves. There is usually a prodromal stage of several days or weeks, with general malaise, depression of spirits, headache, numbness, stiffness, cramps of legs, edema of the ankles, diarrhea, and usually a slight fever. These symptoms sometimes come on with great rapidity, the patient going to bed well, and waking up in the morning unable to walk or stand. The edema of the legs increases, the hands and the face become puffy, the paralysis develops, knee-jerks are abolished, palpitation and cardiac dyspnea become marked, and the urine is much diminished. After a variable space of time, the renal secretion becomes abundant, the edema disappears, and then the legs and arms have been found to have undergone a marked atrophy.

An example of the motor type of neuritis is found in lead palsy, of which there are two common types, characterized, the one by the lower

arm symptoms (wrist-drop), and the other, not near so common, the upper arm type. Lead as an etiologic factor in producing disturbances of the nervous system is a much more common one than many suppose. In cities like Chicago, where in the homes of many of our citizens the water supply is in some part of the day deficient, the pipes in fact may be empty of water, and then become encrusted with oxide of lead, and just as soon as the increased pressure fills up the pipes again, and water is drawn, particles of lead are detached and pass into the drinking vessel, and thus enter the bodies of the patients, and while we have in the blue line on the gums when present an excellnet means of differentiation, yet we have many cases of lead poisoning in which this blue line is absent.

Another example of the motor type of neuritis is Landry's paralysis. This disease in its typical form has sensation intact and sphincters uninvolved. The rapid advancing paralysis, beginning in the legs and extending upwards, presents such a striking clinical picture that an error in diagnosis is rarely possible. In the slowly progressing cases in which there is numbness and some pain, and some paresthesia, still greater difficulty will be experienced in making a diagnosis.

Another form of the motor type of neuritis is tetany, and the one in which there should be but little difficulty in differentiation. The irritability of the nerves to the electrical currents, and to pressure, and the easy development of the spasms of the hands and feet by pressure over these nerve trunks, and by percussion over these nerve trunks make such a picture that can rarely be mistaken for any other disease. A good example of the vasomotor type of multiple neuritis, and one in my experience by no means uncommon, is erythromelalgia. Sensory symptoms are here present, sometimes to a very marked degree, but it must be by the redness of the skin of the feet that the diagnosis is made. It is a neuritis that is usually limited to the plantar nerve, and is multiple in that it usually involves both feet.

Treatment.—The treatment of these several forms of neuritis have in common, rest, the relief of pain and insomnia, the use, in the early stages, of the constant galvanic current of low amperage, anode applied daily to the nerve trunks involved, attention to elimination by skin, bowels and kidneys. The several etiological factors give indications of treatment; the alcoholics require the bromides, with codeine in such doses as necessary to secure a reasonable degree of comfort, and the use of nerve tonics, of which strychnia is the most serviceable. In alcoholic neuritis it is absolutely necessary to withdraw at once and completely the alcoholic stimulants. In the treatment of beri beri, it is the opinion of the physicians who have had much experience with the disease, that the patient must be moved from the locality where the disease was contracted, and have absolute rest in bed, mild laxatives, diuretics. tonics, and anodynes, when cardiac failure seems imminent, strychnia and nitroglycerine hypodermically have given the best results.

After the acute stage of these several forms of multiple neuritis has passed, the patients all alike require vigorous restorative treatment. The hemoglobinometer will show the most of them to be markedly anemic, and

to relieve this of course some preparation of iron must be used. My experience with the various recent preparations of iron has not in the least diminished my confidence in Blaud's mass, which received at the hands of Niemeyer so many years ago such warm endorsement. With iron may be combined quinine. The diet throughout the case must be carefully regulated to suit the digestive condition of the patient. They all need a very liberal diet, but it must be carefully proportioned to their capacity, so as to avoid a possibility of autointoxication by the abdominal tract. So soon as the acute pain has disappeared, the use of the galvanic current of a proper amperage, interrupted so as to produce muscular contraction, is indicated. The seances should be short; not more than three or four contractions of each group of muscles by a current of the least possible amperage should be made daily. This exercise of the atrophied muscles will ordinarily result in their slow redevelopment, and after a time they will respond to the faradic current, and then it should be substituted. Gentle massage should be commenced at the same time the electrical exercise of the muscles begins—and the severity of this treatment should be increased as the muscular soreness subsides. There is nothing mysterious about massage, and any one of ordinary intelligence can soon be taught to do it properly. Much benefit may be had by the hypodermic use of strychnia, a daily injection beginning with one-sixtieth and gradually increasing it to a full physiological dose. If the case does not yield, hypodermic injections of the chloride of gold and sodium, gr. 1-24, may be added to the daily treatment. As soon as possible, the patient must be encouraged to make voluntary muscular movements, frequently and to the utmost extent possible. Many of these cases of multiple neuritis in the beginning of the treatment are very discouraging, and the physician is apt to give them up as hopeless cases too soon. Some of the most satisafctory results that I have had have been in these cases of long standing neuritis abandoned by physicians as incurable.

A CASE OF PRENATAL SYPHILIS.

By A. H. Ohmann-Dumesnil, M. D.,

ST. LOUIS.

BEFORE entering into a recital of the case which forms the basis of this paper, it may not be inopportune to give a short foreword in the choice of the term which appears in the title. The writer has a preference for the word prenatal, because it is clearer, more comprehensive and defines better the condition which exists and which has been variously called at different times and by different authors. A short analysis of some of these terms may not be uninteretsing, and added thereto, a justification of the term used here will, no doubt, prove more satisfactory to the writer as well as to others.

In the first place, the term hereditary syphilis has been, and still is employed by syphilographers and general writers in medicine, and, if we

face the matter in a purely logical way, it must be acknowledged that the term is both illogical and unsatisfactory. It may be argued that the disease is derived from the father or the mother, but it cannot be forcefully contended that it is hereditary on this account. It is not a heritage, but rather a transmission by easily understood means. I will not enter here into a prolonged discussion of this question, which in itself alone would fill a volume. The contention which I wish to establish is, that what is called a disease, cannot be transmitted by heritage, and, hence, the term "hereditary" is a misnomer. From whom does a child inherit syphilis? The father is syphilitic and infects the mother. The child is born with syphilis. Does it inherit from the father or mother? If from the father, why is Colle's law exemplified so often (of course there are some exceptions, but they are few and far between)? If from the mother, why does a mother acquire syphilitic lesions from her child? I merely throw out these hints to give some food for thought.

In the second place, the term congenital syphilis is entirely inadequate to express what a great many authors intend to convey. The very meaning of the term, when looked into, implies a condition which is observed at birth, and we are forced to think that unless otherwise specified, cases of congenital syphilis are acquired by the child by direct inoculation in its passage through the maternal parts. I have had opportunity to observe such cases, and a careful search has always revealed the initial lesion or chancre. The evolution of the disease was classic, and the absence of bullae or vesicular eruptions, confirmed the diagnosis of acquired syphilis. An examination of the mother revealed the presence of lesions of recent date and of undoubted infectious character. Nothing could be more convincing so far as establishing the origin of the syphilis.

In the third place, the term prenatal syphilis which I desire to establish, gives us a more accurate idea of the trouble with which we are confronted. As is clearly indicated by the defining word, the disease is acquired before birth and does away with the term congenital. It is not simultaneous with birth, but before it, and it presents symptoms totally dissimilar to any we will acknowledge from personal experience, or will find in standard works written by authorities on the subject. The term also eliminates "hereditary," which, at best, is but a misnomer and not susceptible to logical investigation. In fact, it is today a remains of the dark ages of syphilography. There is no doubt in my mind that the day is not far off when it will be completely endorsed by those who have seriously thought upon the matter. I know that the suggestion which I make is to establish habits and methods, but it is always in order to suggest something which is more logical, and, at the same time, more in accord with progressive ideas.

Of course, the subject is worthy of fuller consideration, but the limitation of time forces me to enter into the consideration of a case that offers a few interesting points, and in order to introduce it, I will first relate a history furnished to me at the St. Louis City Hospital, where I observed it. The history is as follows:

Alice G., school girl, aged 15, single, was admitted to the hospital June 9, 1901. Has been going to school since nine years of age. Habits good, appetite good, sleeps well, bowels regular.

Family history: Father living, mother dead; cause unknown. Two half-sisters living, ages 4 and 2 years respectively; both healthy.

Previous diseases: measles.

Present disease: Had sore eyes when very small. About four years ago her left arm began to swell at site of vaccination and was painful. It stayed swollen for about two years. She was kicked on left leg on shin, and the leg began to swell and was painful. The right arm now began to swell at the elbow, then the right leg; both were painful. She hit her right shin against the step and it became sore, and a good deal of foul-smelling matter ran out of it. Has never had headache. The left inferior maxillary is swollen.

Present condition: The patient is poorly nourished and looks small for her age. She has the Hutchinson teeth; the left cornea is cloudy, the iris has lymph markings obliterated, pupils contracted, discolored areola in iris around pupils. Atropin does not dilate the left pupil, but dilates the right. The left arm is well, the right elbow is ankylosed, left leg is swollen, tibia enlarged—the ten-pin leg. There is a foul-smelling ulcer on the shin about the middle; it is surrouned by a red areola and the probe shows the ulcer to be shallow with dead bone at the bottom. The right tibia is also enlarged and "sabre-blade" nodes are found at the costo-chondral junctions.

Urine: Specific gravity 1027; amber-color, clear, slight sediment; albumin and sugar negative; no casts.

Diagnosis: Lues, congenital.

Treatment: Patient put on bichloride, one-twentieth grain and K I. five grains (increasing) three times a day after meals. Bichloride bath and dusted with calomel; blue ointment on legs. On June 12 the odor nad disappeared; treatment was continued.

June 15, patient eats and sleeps well; sore looks better. Inunctions discontinued for two days.

July 1. Patient improving very slightly; bone necrosed, but not separated; ulcer about same size.

July 9. Improving very slightly; ulcer painful and about same size; right side of neck slightly swollen.

July 18. Ulcer healing. On July 10 a distinct enlargement of the parotids and right submaxillary glands was noted. The internal administration of mercury was discontinued and two days later the inunctions were discontinued. The glands have resumed their normal size and the gums less reddened. Inunctions will be resumed tomorrow and twenty grains K I. internally will be continued.

July 23. Patient again put on the mixed treatment, with inunctions; ulcer healing. It is becoming smaller and the necrotic portion of the bone has not separated. Treatment continued.

August 14. Patient is bright, has good appetite, there is no evidence of salivation or iodism. There is slight effusion into left knee, but this is subsiding.

August 15. Patient has been having moist chloride pack on leg; changed today to dry iodoform.

This method of treatment in general was kept up until the patient was discharged at the request of her father. Since that time she has been lost sight of. It must not be forgotten that the necrosed portion of bone did not separate, although a sequestrum was expected to be ready for removal in a short time. The entire osseous system of the girl was in a very bad shape. Her teeth were in bad condition, as may be seen by the models presented. The center incisors were typical Hutchinson teeth and there were some that were small and stunted. The case, taken as a whole, is a classic one of prenatal syphilis. The mental condition of the girl was infantile. She was feeble-minded and her physical development was below par. She had not yet begun to menstruate, there was no indication of mammae, the hair on the pudenda was limited to a few straggling ones. It is not often that we are afforded such an opportunity to observe a case presenting so many typical signs of this disease. As a rule treatment is sought at a much earlier age, and it is not permitted to progress so far. More or less anxiety is manifested by the parents or care-takers, and clinics are so numerous that it is a comparatively easy matter to obtain medical advice and treatment gratis; so that, the total neglect of a case of this sort shows the carelessness which has been exercised, and further accounts for the severity of the process as observed.

An interesting point in connection with the case, is the fact that two healthy half-sisters are living. This leads most naturally to the thought that the one under consideration is affected with the so-called late hereditary syphilis of Fournier; and that the other children will show manifestations of this peculiar variety, if permitted to go untreated. Not having had an opportunity of speaking with the father, or of examining the children, it is impossible to draw deductions on this point.

Such is the brief history of a case which is full of interest, and which more carefully collated notes on the part of the hospital interne would have made more valuable for reference. I am very sorry that there was want of exactness on this particular point. From the patient herself there was little to be expected, and no one of her relatives seemed to take enough interest in her to even inquire concerning her condition. The probabilities are that she will return to the hospital some time in the future, and then her complete history will be available.

TETANILLA.

JOHN W. HANNA, M. D.,
WINFIELD, IOWA.

THIS disease is very rare. So rare in fact that I am convinced that many busy physicians during a long professional life do not meet with it at all. I have practiced medicine for near thirty years, and yet have seen but one case, and that occurred in my own practice. An eminent neurologist told me that he had seen but five cases in all. It would appear, therefore, unwise to use any of the time of this convention in discussing a disease so rarely met with. Yet your next case may be one of this character, and I assure you, should such be the truth you need all the information obtainable to enable you to handle your patient with any degree of success or satisfaction to the patient.

Tetanilla, or little tetanus, sometimes called tetany, idiopathic, muscular spasm, idiopathic contraction and paralysis, etc. It is a name originating with Carvisant, and is applied to a peculiar neurosis, characterized mainly by paroxysmal tonic convulsion in certain groups of muscles. Authors tell us that the disease attacks by preference children and young adults between fifteen and thirty years of age, yet I am inclined to the belief that there are many exceptions, and the disease may attack persons of any age. I am convinced that the cause or causes producing tetanilla are not well understood. Many supposed causes are mentioned, among which are catching cold, as a sequel of acute diseases, such as typhoid fever, smallpox, and intestinal disturbances. I am of the belief that we will have to look almost wholly into the latter named for the cause. Now as to whether this disease has a special or distinct form of bacilla, I do not know. It is presumed that it has. One or two bacteriologists have claimed to have made the discovery. However, I am prone to think the field still open to investigation.

On June 11th, 1901, Mr. J. T. P., aged 55, a farmer, consulted me at my office. He was complaining of a stiffness of the jaws, and an inability to masticate satisfactorily, and some difficulty in swallowing. There were marked facial paralysis. No tubercular or specific disease appeared in the family history.

Parents died in middle life from acute disease of a febrile character, probably typhoid. The patient had been a hard working successful farmer of more than ordinary intelligence. No history of rheumatism, traumatism, abscess or pyemia.

However there was history of considerable digestive disturbance. My diagnosis at first was peripheral facial paralysis, yet at a loss to arrive at the causes producing the same, as there was no apparent organic lesion situated in the cranial cavity, as basilar meningitis, tumors or syphilitic lesions in this situation. I at once began electrical treatment, having the patient visit the office daily, which he was able to do for about ten days, when he became unable to do so. I used faradic, galvanic and static electricity without the slightest benefit, the patient growing worse day by day.

In the course of a week he began to show slight spasms of the upper extremities, and a marked rigidity of the muscles, making passive movements impossible. The tonic spasms soon extended to the entire system, involving first one group of muscles and then another. The calf muscles being particularly the seat of tonic contractions. This could be relived by rubbing with alcohol, which had to be done 100 times a day more or less. In about three weeks the teeth were firmly closed. I gave him bromides and chloral, also morphine and hyoscamine hypodermically without relief, except temporarily, One thing perplexing at this time, the facial paralysis had apparently entirely disappeared, yet his jaws were so firmly set that his teeth could not be forced apart. The weather was hot. He required his watchers, four in number being necessary to fan him continuously, whether necessary or not. To feed him was now the serious problem. I gave him food enemas, of milk, eggs, etc., but such a method was not a success, and my patient was gradually passing away, as I then believed. I was up a stump. No local medical talent was able to enlighten me as to what I had to deal with, and I was at sea myself. I called Dr. Sanger Brown, of Chicago, to see the case. I can not speak in terms too laudatory of this eminent neurologist. He informed me that I was treating or trying to do so, a case of tetanilla. Then I did just what many of you have done since seeing my subject in this program, consulted the textbook to see what in thunder is tetanilla. I fed Mr. P. for three weeks twice a day a quart of milk, adding to it such drugs that were indicated. This I did through the nose with a common stomach tube. I will remark here that this is not a difficult thing to do, only being careful that your tube does not pass down the trachea instead of the esophagus. I could get no apparent good result from the use of any drug, except one little combination, calomel $\frac{1}{8}$ gr., ipecac 1-12, sod. bicar. $\frac{1}{2}$ gr. When I gave six of these tablets daily he showed improvement When I gave less he seemed worse, so I gave them every day to the end of my treatment, which came in about three months from the beginning. The calomel kept the bowels open nicely. It was necessary to use the catheter for about one week.

Although for the most part he voided his urine in a very sluggish manner. One peculiar feature of his case, was that a strange face would excite a spasm, as in tetanus. During convalescence he would have to place his hands over his eyes while sitting on the porch when teams would pass by. If he did not he would have a spasm. At no time during his sickness did his temperature go above 100. He made a complete recovery, went about his business as before, although did not do hard farm work.

I regret to state, however, that my patient died of pneumonia on the 18th of last month; fearing that his trouble might return he sold his interest in Iowa and moved to Oklahoma City on March 3d, hoping that a change of climate might prove beneficial. The exposure incident to removal was too much for him. He contracted a severe cold, which soon developed a fatal pneumonia. I am told that during his final illness that all of the features of tetanilla returned in an aggravated form, although being for four months entirely free from any symptom of the disease. Fre-

quent examinations of the urine at no time showed any trace of albumen or sugar. I attribute my success in his case to the persistent use of small doses of calomel, which demonstrated so beautifully and unmistakably its intestinal antiseptic quality, at the same time nicely stimulating the ilver to perform its function more actively. I wish also to strongly recommend alcohol used locally in a generous manner as an excellent local stimulant, and for the relief obtained for the patient, for which he freely expressed gratitude. With generous feeding and the aforementioned treatment you will likely save your patient, should you ever have one of this character, which I sincerely trust you may not.

DISCUSSION.

Dr. H. C. Anderson (Chicago).—Mr. President, will you kindly ask Dr. Hanna to define "tetanilla?" I confess that I am quite ignorant of what the disease is.

Dr. J. W. Hanna.—The definition to tetanilla was given in my paper, but I will gladly define it again. It is otherwise known as tetany. The name tetanilla originated with Carvisant, and is applied to a peculiar neurosis with paroxysmal, tonic convulsions in certain groups of muscles.

Dr. W. A. Tichenor (Chicago).—I know but little of this disease, but I am at a loss, and would like to ask Dr. Hanna how he could have a case with paralysis in the parts, and tetanus at the same time; how paralysis of the muscles could occur and active contractions at the same time?

Dr. Alfred Roulet (St. Louis, Mo.).—In his paper Dr. Hanna spoke of the danger of introducing the stomach-tube into the trachea. I have used the stomach-tube considerably both in hospital work and private practice and have taken no particular pains to avoid the trachea, and I have never either seen or heard of a case where this accident has occurred. I know that it is customary among writers on this subject to mention this as one of the dangers to be guarded against, but they do not, as a rule, report cases where such an accident has actually occurred. I believe the fear of this complication arises principally from an imperfect notion of the anatomic relations of the parts concerned, and I am convinced that it is based more on theory than on reality.

Dr. W. A. Tichenor (Chicago).—I would like to say just a few words on the subject of feeding the patient through the stomach-tube. For at least eight years, and, I might say longer, I was what is called a "lunatic doctor." During that time we had many patients who would not eat, and it therefore became necessary to feed these through the stomach-tube, and I can safely say that I averaged feeding at least one patient a day in this manner. In all that time I never introduced a tube into the trachea, and if one should be introduced by accident and a drop of the fluid went in the trachea, the patient would let you know it, for he would be seized with an uncontrollable fit of coughing.

Dr. C. E. Paddock (Chicago).—Contrary to Dr. Van Hoosen I think Dr. Hanna was fortunate to have his patient out in the country away

from the specialists. I think that oftentimes the country doctor treats his patients much more scientifically where he relies upon himself, than he would if bothered by a number of specialists and changing his treatment from day to day and giving no treatment a fair trial. In many instances I think a doctor is very fortunate in being in the country and not having his treatment changed by specialists.

Dr. H. A. Leipziger (Burlintgon, Ia.).—Being from Iowa, as is the reader of the paper, I agree with the last speaker that Dr. Hanna was fortunate in not being advised by specialists in the treatment of his rare case, because one of the eminent specialists from Chicago, after hearing the paper, wanted a definition of the disease, and the doctor from Iowa had to define it for him. It is at least interesting to know that we can bring something to Chicago once in a while that the Chicago specialists know nothing about.

Dr. J. W. Hanna.—I am thankful that my paper attracted some attention, and will say for Dr. Tichenor's information, that in my paper I said that I did not at first know what I had to deal with, but my first diagnosis was partial facial paralysis. It was a most peculiar case and one that would give a man a nightmare.

For Dr. Andersen's benefit will relate that it is a favorite pastime of myself and a partner of mine who shares my office with me, to ask in a most serious way of doctors we meet, what is their method of treating tetanilla. They always ask, "What is tetanilla?"

In relation to the stomach-tube I would say that I am inclined to think that the stomach-tube is not very frequently used through the nose of the patients of some of these men who differ from me. I do believe that it is possible to pass a tube down into the trachea, I do think it could be forced down into it, and I know that in passing the tube as I did, at least one hundred times with my patient, I had to be very careful, or he would suddenly spring into the air, exhibiting all the signs of suffocation. I would say further, in regard to specialists, that I would not have known what the case was myself had I not called Dr. Sanger Brown.

CHOLECYSTECTOMY VERSUS REMOVAL OF THE MUCOUS MEMBRANE OF THE GALL BLADDER.

By Emil Ries, M. D.,

CHICAGO.

IN the development of surgical work on gall stones in the gall bladder, three epochs have been passed through which may be differentiated by the principles dominating the operator's mind and guiding his hand. The first epoch was characterized by the idea that these stones themselves are the cause of all the trouble, and, therefore, their removal alone was the aim of the operation, and the sooner the gall bladder was closed, the more successful the operation was thought to be. Cholecystendysis, the so-called ideal operation, seemed to fulfill the requirements; today it is pracically abandoned. It soon became clear that there was a second factor of supreme dignity in the pathology of cholelithiasis—the diseased mucous membrane of the bile tract.

Cholecystostomy, the operation of opening the gall bladder and leaving it opening for the purpose of drainage and local treatment of the gall bladder and ducts then was considered the supreme remedy. As, however, the reports of biliary and mucus fistulae, of stones overlooked or reformed, of strictures and inflammatory processes accumulated, a further step was taken and the removal of the entire gall bladder with the cystic duct, or cholecystectomy, entered into competition with the older methods.

The removal of the gall bladder is, as a rule, neither a difficult nor a dangerous operation. Kehr[1], for instance, who has probably done more cholecystectomies than anybody else, reports in over 100 operations of this kind, a mortality of about 3 per cent; he has frequently performed the operation in one-half hour. He declares that he is performing this operation at present more frequently than any other gall stone operation, and that he is better satisfied with the remote results from this procedure than from any other rival operation. This latest and most radical operation on the gall bladder is, of course, unanimously recommended by all surgeons, in cases where the gall bladder is the seat of malignant, or such acute inflammatory or necrosing processes as make its preservation an impossibility. In cases of chronic inflammation, however, where the gall bladder is thickened, where it is small, where it may or may not contain stones or sand, where it is adherent to neighboring organs, cholecystectomy is only one of several operations that will come under consideration.

We do not think that cholecystenterostomy, the formation of an anastomosis between the gall bladder and some convenient portion of the bowel, is to be discussed here as a competing operation, because this procedure is often difficult of performance in this particular instance and appears uncertain in its outcome because it would seem to favor infection of the bile tract. Two other methods, however, have attracted considerable attention in the treatment of these contracted gall bladders. One, the

drainage by a tube inserted into the gall bladder and made water-tight after suturing the gall bladder opening around it (Kehr[1], Poppert, Mayo[2]), and the other, Mayo's method[2] [3] of removal of the mucous membrane of the gall bladder.

The first operation of the water-tight insertion of a rubber tube into the gall bladder is good enough in an emergency, if the operation is a tedious one on account of complications, adhesions, etc., but just in such cases secondary operations are quite frequently required. Mayo[3] describes this condition most admirably in the following words: "After the removal of the external drainage, the thickened walls of the gall bladder continue to contract, interfering with the drainage through the ducts from the islands of mucous membrane not previously destroyed, and a condition results resembling a chronic appendicitis in many aspects." He recommends cholecystectomy in such cases, and therein agrees with the majority of surgeons. Mayo[2] offers as a substitute for the cholecystectomy, the removal of the mucous membrane of the gall bladder. "Especially," says he, "is it as a secondary operation that the removal of the mucous membrane is most serviceable; that is to say, where a cholecystostomy has been performed without accomplishing the desired results."

This removal of the mucous membrane, according to Mayo, is done by pulling it from the underlying tissues, and is said to be easily performed. The hemorrhage is insignificant, and requires at the worst, one or two ligatures, or the twisting of some small vessel. After the removal of the mucous membrane, the cystic duct is ligated and drainage is carried down through the remaining muscular and connective tissue coats of the gall bladder to the stump of the cystic duct. Mayo and others have performed the operation with good results.

Some observations on the surgical pathology of the gall bladder which I have made recently, have convinced me that this operation of removal of the mucous membrane of the gall bladder, is subject to serious objections which I think ought not to be overlooked. The case on which these observations have been made, is the following:

Mrs. L., 45 years old, has passed gall stones several times. First, eighteen years ago, then two years ago, then for several months before I operated. The stones have been from the size of a hazel nut down to very small concretions. She has never had jaundice, but severe colics have preceded the passage of stones every time. For the past two years the patient has not been entirely free from pain at any time. She was not jaundiced when I first saw her. The region of the gall bladder was painful on pressure; otherwise, examination had negative result.

The operation revealed a small, hard gall bladder low down, adherent to the omentum, colon and duodenum near the pylorus. It was dissected out from its adhesions and from the liver, the cystic duct tied off with catgut close to the common duct and the gall bladder was removed. On opening it, five small stones and a quantity of sand were discovered in the gall bladder. The cystic duct was closed by inversion of its walls, a piece of omentum was sutured over the stump and a strip of gauze passed

down to the stump. After covering all raw surfaces on the bowel by sero-serous sutures, the abdomen was closed, with the exception of a small opening through which the gauze was permitted to protrude. The patient made a good recovery and left the hospital eighteen days after the operation in very good health and the wound closed with the exception of a very small, granulating portion of the skin, which has closed since. The operation was done in January of this year and I have heard of the patient since that; she is in excellent health.

The most important feature of the case was the examination of the removed gall bladder. The wall of the gall bladder was six millimeters thick. Of this, about one millimeter is muscular coat and mucous membrane; the rest is connective cicatricial tissue and serous coat. The thickness of the muscular coat is about four times that of the mucous membrane. The mucous membrane is covered with the normal columnar epithelium of the gall bladder and the glands of the mucous membrane show secreting epithelium. Between the glands of the mucous membrane, foci of round cell infiltration are to be seen which penetrate the muscular coat following the blood vessels. The most important finding concerning the glands is that they penetrate the muscular coat so that their fundus appears beyond the external surface of the muscular coat and is imbedded in the connective tissue of the subserous portion. These glands are invested with apparently perfectly normal columnar epithelium; there is no multiplication of layers, there is no atypical arrangement and there is no metaplasia of the cells. The subserous, thickened, cicatricial tissue contains occasional foci of round cell infiltration, but these remnants of inflammation are few and far between. The serous coat presents nothing abnormal.

Leaving out of consideration all other features of this pathologic condition, the most important observations have been made on the glandular elements of this gall bladder. We find that the glands, instead of being confined to the mucous membrane, penetrate the muscular layer and appear between this and the serosa. We have to deal with abnormal growth of the glands as we see it occasionally also in other organs composed of mucous membrane and muscular wall, as for instance, the uterus, tube, stomach. It is not too much to say that here is morphologically the connecting link between the benign hypertrophy and the malignant, destructive growth.

Now as to the surgical significance of the case, it is very evident that in attempting to remove the mucous membrane of this gall bladder, an operator would undoubtedly have removed muscularis with the mucosa, so that in attempting the removal of the mucosa alone, he would have removed more than he intended to remove. Furthermore, it is evident that if instead of removing the whole gall bladder, Mayo's operation of removing the mucous membrane alone had been performed, glandular elements would have been left behind in the remaining wall of the gall bladder and what would have been the outcome? The outcome would have been just what Mayo correctly describes, as above quoted: "Islands of mucous membrane not destroyed by the operation, would have continued

to secrete; a condition much resembling chronic appendicitis" would have been created artificially and the result of the operation would probably have been a disappointment.

It is perfectly true that in the operations performed by Mayo and others, no bad results have been reported, but the time during which this operation has been done is short, and the number of cases is not large as yet. On the other hand, we have most excellent clinical and experimental evidence with which to support our contention that the danger from such remaining glands is more than imaginary or theoretical. First of all, we know by the experiments of Oddi[4] and those of Voogt[5] that after the removal of the gall bladder, the remaining mucous membrane of the cystic duct grows abundantly so as to give rise to a sort of a new gall bladder, and the mucous membrane of the cystic duct is genetically and histologically the same as that of the gall bladder. Therefore, remnants of glands left behind might give rise to cystic formations. Second, unintentionally similar experiments have been made clinically on an organ constructed on similar lines—the uterus. It has been observed here, that after unwise curettement of the uterus, part of the uterus became obliterated, proving what destruction of mucous membrane in that part of the uterus would do; while behind the destruction a hydrometra formed, the contents being produced by the patches, or islands of mucous membrane reproduced from the ends of glands left in the depth between the muscular fibers in the same way as a pulling off of the mucous membrane of the gall bladder would have done in the above case. In the course of severe inflammatory processes of the uterine mucosa, a similar result has been observed after partial necrotic destruction of the mucous membrane.

We therefore have to take into account the possibility of the formation of a retention tumor in the remnant of the gall bladder, after apparently complete removal of the mucous membrane. Such a retention tumor would have the same pathology and clinical dignity as a hydrops of the gall bladder, due to stricture of the cystic duct, a condition that is best treated by cholecystectomy.

My conclusion, therefore, is that the removal of the mucous membrane of the gall bladder is a step in the wrong direction, and ought to be abandoned in favor of the more radical, more reliable and hardly more dangerous cholecystectomy.

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100 State Street.

DISCUSSION.

Dr. Emory Lanphear (St. Louis).—Mr. Chairman, Members of the Society: I am very much interested in the paper presented by Dr. Ries, for the reason that it touches upon a field of surgery that is as yet unsatisfactory to most of the operators. It has often been said, and Dr. Ries

has also said it in his opening speech, that gall bladder surgery is practically the easiest of all abdominal surgery. I think when you attempt to put in practice what is said by these men upon the subject, you will agree with me, that it is, as at present practised, the most difficult of all abdominal surgery. To speak of removing a gall bladder in ten minutes is absurd. One may remove a normal gall bladder, as they might remove a normal appendix, in ten minutes; but it is not in normal cases that we are called to operate. Where we open the abdomen for the relief of gall stones, or cholecystitis, or any of the other conditions that demand surgical operation on the bile tract, we find adhesions to everything, particularly if there are long-continued inflammatory changes. The gall bladder may be found to be beyond the reach of ordinary fingers, and there are other complications which render operations upon the gall bladder among the most difficult in surgery. I think that Dr. Ries has not understood Mayo's operation, as Dr. Mayo practises it. He may be correct in assuming that Dr. Mayo advocates, in his article, removal of the mucous membrane only, but in practice he removes everything except the serosa. I have attempted this removing everything but the serous coat of the gall bladder, but have uniformly found the structures so fragile that I was compelled to make a cholecystectomy. His operation, theoretically, is good, but practically it is bad. When the changes in the mucous membrane and the muscularis are sufficient to demand radical operation, I believe that cholecystectomy is called for, and not merely the removal of the interior of the gall bladder. For years in this field of surgery I have practically abandoned the old operation of suturing the gall bladder to the abdominal wall and then opening it and draining it. There is usually a condition of affairs there which contraindicates this method of treatment. In the old days when we feared infection and did not know how to deal with this class of cases, we were obliged to stitch up and then later on open up the gall bladder and clean it out, as the case demanded. Nowadays this is not indicated. The only instance where I believe that it is advisable, at the present time, is where there is a thickened condition of the mucous membrane and muscularis and an accumulation of probably infectious material in the gall bladder without stones and without suppuration. A large number of cases that call for operation, are cholecystitis chronica with a jelly-like substance in the gall bladder, without the formation of stones. In such cases we find it only necessary to stitch the gall bladder, wait a few days and then open it and wash it out a few times; and as soon as normal bile flows freely, let it heal by granulation. This, then, is the only class of cases in which I now make the old operation of cholecystectomy—opening the gall bladder and draining with the rubber tube (or gauze, which I prefer). I must dispute even so eminent an authority upon this operation as Dr. Ries in his opposition to opening the gall bladder and correcting the conditions found therein, and then dropping the gall bladder into the abdomen, as being the ideal method of treating certain forms of disease. We find, sometimes, a single stone present. On opening the abdomen in such a case and finding that there is such a condition present, it is my practice (and I have done this a large number of

times) to simply open the abdomen, remove the stone, wash out the organ with peroxide, close it with two rows of sutures, and then drop it, closing the abdomen without drainage. This is ideal gall bladder surgery; but, unfortunately not applicable to a large number of cases. Indeed, the operation is limited in its application almost as much as the old operation of stitching to the abdominal wall, which I have supplanted by ligating and extirpating the gall bladder. If the gall bladder is infected by the micro-organisms, coli communis and the staphylococcus or streptococcus, we will not get good results by treating it the same as for stones, and for such cases I believe the future operation is removal of the gall bladder without drainage, if there are not too many adhesions, nor too much leakage of pus during the operation. In our present state of knowledge, in many cases we are still obliged to resort to gauze and drainage, but I hope in the future to overcome this form of treating gall stones. There is much yet to be learned of the technique of gall bladder surgery; hence, papers like that of Dr. Ries do much good, even though we may not agree on some points

Dr. B. Merrill Ricketts (Cincinnati, O.).—I hardly expected to talk upon this subject. Dr. Ries has gone over the subject pretty thoroughly and presented it in a fair way. The question of removal of the mucosa is interesting, because he has shown us the practical impossibility of removing it alone. It is stated that we are to deal in certain ways with the gall bladder, and it is apparently taken for granted that we have normal gall bladders, and I agree to that if we have a common duct. I merely wish to speak of anomalies. It is difficult before a gall bladder is removed, to say that these ducts are present, as there are many cases in which there is practically no cystic or no common duct, and we should determine whether there is connection between the hepatic duct and the duodenum. I think that many failures are due to these anomalies. I am inclined to make the cholecystostomy in the greater number of cases. Some two or three years ago I had made a cholangiostomy. I found myself forced to make this operation. It was a case with the liver extending over the median line, and we found it necessary to go through the liver and down into the gall bladder, and take the stones out in that way, and recovery ensued in my case. I believe that it would be unfair to surgery to condemn cholecystostomy. In many of these cases we have a collection of fluid, and where we have a stone passing down into the common duct, it is necessary to reopen after the wound has healed in the abdominal wall, and in that way get drainage externally. It is a safety valve in many cases. I have a case operated on in November, where we have a fistula. I believe it is due to the presence of a silk-worm gut. There is no biliary discharge, which I would rather see in that connection. Some nine weeks after that operation, the wound failing to heal, an attempt was made to enter the bladder with a probe. It could not be done. She is now entirely well. At the operation, the gall bladder contained from sixteen to twenty-four ounces of fluid and there were forty or fifty gall stones. I merely drained, and I believe that we have done our duty and the best for the patient,. I believe that in making these cholecystostomies we should see that there is no danger

of fluid getting in behind and forming a hernia. In making the operation of cholecystostomy, if we can obliterate that space behind the gall bladder, where there is a possibility of having the space, we should do it.

Dr. E. W. Andrews (Chicago).—I did not hear the earlier part of the paper, but was much interested in the conclusions, toward the end. These conclusions are so strongly fortified with the research work of the glandular structure, that they are entitled to very great respect. They derive a deep importance from the laboratory research, rather than from the clinical results. Instead of saying anything contradictory, I should like to say a word in praise of the removal of the mucous membrane linings of the gall bladder, from the standpoint of clinical results. In the first place, Dr. Mayo's 350 cases of gall stone work include a very large number of cases, especially the late cases, in which the mucosa of the gall bladder was taken out almost in a single piece. He still speaks very favorably of this method. In my own experience, after having learned this technique from him, and also from the experience of a number of operators in Chicago, I consider that the results have been most excellent. There are many cases in which the gall bladder is found presenting some such appearance as this (illustrating): As it goes down to join the cystic, it is found that the common duct has impacted in its neck, a stone. The removal of these impacted stones from the gall bladder and the cysticus is difficult, because they form a tumor larger than the calibre of the duct, above and below it. It is impossible to get this out with any forceps; the forceps will not engage the stone. It is apt to be crushed by the forceps, or taken out by an incision in the wall. It is in this class of cases that an extirpation of the mucous membrane, so that we can get all this out with the stone enclosed, particularly in the case of a single large stone, is to be recommended. One of the steps to that operation, which facilitates it most, is a circular incision up near the fundus, circumcising it about one inch from the apex. With this incision of the outer coats, we believe that all shelling it out will be at an end. If we cut a circle around it, making a little cup, we can separate the lining to the very end, and never spill a drop of its contents. With all due respects to these experiments and investigations, I am thoroughly well pleased with the results of the operation.

Dr. Emil Ries.—The discussion has, if anything, fortified my standpoint, and I am truly grateful for it. Dr. Andrews has emphasized exactly what I have said, that the operations have been done of late, which is too short a time for the consequence which I am anticipating to show. As soon as pathology shows us the danger lurking in the method, it ought to be enough to make us think of abandoning the method, especially when we have a method which is very little more difficult and takes a very little more time. Dr. Andrews says to circumcise the mucous membrane and peal it out. In this way, you may get a tear and the contents may escape. If you have a stone in the cystic duct, it is easy to remove it if you take out the cystic duct with the gall bladder. You simply put on an artery forceps, take out the duct and you have the whole contents. As to Dr. Lan-

phear's remarks, he says it is almost absurd to say that the gall bladder can be removed in ten minutes, and mentions cases where there are adhesions all around. I only said that the gall bladder could be removed in ten minutes, occasionally. Take a case of hydrops of the gall bladder with occlusion of the cystic duct. I operated on such a case three years ago. There were no adhesions to the structures around and I took it out as easily as you can pull a polypus out of the nose. This was one of the occasional cases in which the operation can be done in ten minutes.

In the case to which I am referring here, the operation took over an hour. Dr. Lanphear supposes that in Dr. Mayo's cases, as I suspected, more than the mucous membrane would be removed. Let us understand that in this case which I report, the glands went down into the serous coat. I do not claim that in every case of gall bladder that is removed by the Mayo method, there exist such glands, and I have examined a number of gall bladders. The results of the Mayo operation are good in cases where these do not exist, but you do not know when they do exist.

As to the formation of fistulae and disinfection by peroxide, I must say I have no confidence in it.

PSYCHOLOGY AS APPLIED TO MODERN MEDICINE.

By G. H. Eiskamp, M. D.,

WASHINGTON, IOWA.

MR. PRESIDENT: Permit me to introduce my paper by quoting some sentences which occur in Professor Muensterberg's Psychology:

"The world of science and learning, as well as the social world, has its alternating seasons and its capricious fashions. Mathematics and philosophy, theology and physics, philology and history, each has had its great time; each was once favored both by the leaders of knowledge and by the crowd of imitating followers. The nineteenth century, which began with high philosophical aspirations, has turned decidedly toward natural science. The description of the universe by dissolving it into atomistic elements, and the explanation of it by natural laws without regard for the meaning and value of the world, has been the scientific goal. But this movement toward naturalistic dissolution has also gone through several phases. It started with the rapid development of physics and chemistry, which brought as a practical result the wonderful gifts of technique. From the inorganic world scientific interest turned toward the organic world. For a few decades. physiology, the science of the living oragnism, enjoyed an almost unsurpassed development, and brought as its practical outcome modern medicine. From the functions of the single organism public interest has been drawn to the problems of the evolution of the organic world as a whole. Darwinism has invaded the educated

quarters of the world, and its practical consequence has been a revolution against dogmatic traditions.

Finally, the interest of the century has gone a step farther—the last step which naturalism can take. If the physical and the chemical, physiological and the biological world, in short, the whole world of outer experience, is atomized and explained, there remains only the world of inner experience, the world of conscious personality, to be brought under the views of natural science. The period of psychology of the natural science of the mental life began. It dawned about ten years ago, and we are living in the midst of it. No Edison, no Roentgen can make us forget that the great historical time of physics and physiology is gone; psychology takes the central place in the thought of our time, and overflows into all channels of our life."

It began with an analysis of simple ideas and feelings, and it has developed to an insight into the mechanism of the highest acts and emotions. It started by studying the mental life of the individual, and has proceeded to the psychical organization of society and social life of art and science, of religion and language, of history and law. Medicine alone has neglected psychology, because it became intoxicated with the wonderful resources of biology and physics. The historian strives today for psychical explanation, the economist for psychical law; while jurisprudence looks on the criminal from the standpoint of psychology; medicine has heretofore never emphasized the practical value of this study.

As proof of the need of which I am speaking, we have but to look at the many remarkable delusions under which multitudes are today laboring. The sudden rise and the rapid spread of the religious vagaries and scientific absurdities taught by Mrs. Eddy, Mr. Dowie, Schlatter, Schweinfurth, and others, afford abundant evidence of this fact. The whole history of Christian science, Dowieism, spiritualism and osteopathism, form curious chapters in the mental history of our age. These popular "fads" have become a dreadful mania, a species of hallucination, in common parlance, a "craze." That thousands of people of today should be trying to make themselves believe that they have no bodily existence, that sickness and pain are but figments of the imagination, is almost incredible were there not so much proof of it on every hand. In the words of another: "Were it not so common, 'twould be strange; that 'tis so common, this is stranger still."

By this class of people medicine is outlawed. Physicians are classed as the enemies of the human race. The use of physical means to accomplish physical ends is denounced as irrational and absurd. In the name of science the most unscientific absurdities are taught. In the name of culture and reform the stale tenets of ancient Hindoo pantheism are dressed up in new garments and foisted upon the people. As a result of it, men and women, easily caught by the tricks of the charlatan, become the prey to unprincipled and fraudulent practitioners who are only too anxious, for the sake of gain, to make willing dupes of the credulous.

At bottom, all error is connected with some truth. Truth having in it the elements of permanence abides because it is true, even though er-

rors, like weeds, may grow up around it and threaten to choke out the life. Moreover, a single truth, or one aspect of truth, may frequently be so emphasized as to have all the force of error. For illustration, take the prevailing belief in the illusions of spiritualism. At the root of this belief lies a double error: First, the universal belief, deep-rooted in the heart of man, as to the reality of the spirit world; and, second, that there are conditions in which the mind's eye creates the objects the eye sees. So, also, with the "faith cure." Dowieism is rooted in the instinctive faith in humanity, and in the fact that faith is a real power in daily life. The error consists in making faith do what it was never intended to do by leading men to ignore the use of common-sense means. Perhaps "Christian Science" affords one of the most powerful illustrations of this principle. Laying hold of certain well-defined truths, it magnifies them beyond all due proportion, combining with them palpable errors, so that the structure it rears, to quote Dr. Martin Luther, is one of "wood, hay and stubble." Underneath this fragile structure are foundation stones of everlasting truth. However, you may account for it, mind is a fundamental reality; not only are the physical and the mental related, but they interact upon one another, the bodily condition inducing certain mental states and conditions, the mind exerting a controlling influence over the body.

The errors of these so-called "scientists" are so patent as to scarcely need more than a passing notice. Their cardinal principles violate every standard of well-established science. They contradict the fundamental facts of human consciousness. The system starts with a theory, and then bends the facts to suit the theory. It is a Procrustes bed, which everything must be made to fit. If some facts are too long, they must be lopped off to suit the bed. If others are too short, they must be stretched to the required length. No matter what becomes of truth, the sacred couch must not be altered. Reality is limited to a single side of being. The universe is cut in two, and one-half lopped off as an unnecessary and unreal excrescence. If wishes could transform hovels into palaces, then nobody would live in huts. If the longing to be free from pain and suffering could dissolve these things into mental illusions, then nobody would suffer. But gout and goitre, cancers and broken bones, are stubborn facts which somehow refuse to be resolved into "the baseless fabric of a vision." The history of humanity shows that the mere desire to live is powerless to maintain one in life.

But, after all, it is not so much the errors, as the fact that a certain modicum of truth is coupled with them, that forms the chief element of danger. In all these modern "crazes" the grain of truth they contain has been in very large measure the secret of their success. Bald falsehood repels. Error is never so dangerous as when mixed up with just enough truth to make it seem plausible. Truth is the sugar-coating false teachers put on their fallacies to enable them to go down more easily.

How to counteract these modern unwholesome tendencies is the question. Criticism will not do it. Ridicule will not suffice. Such movements are strengthened by denunciation. They fatten on persecution. As it is an unpleasant task to be always uprooting weeds, so it is an endless one

to be forever refuting error. Any refutation to be lasting must be positive, not negative. Planting truth is the best way to kill out error. The death-blow to all such scientific, philosophic and religious vagaries is struck when we show the truth concealed behind the fallacy, and exalt that.

It is at this point that medicine has failed in the performance of her duty. While Christian Science has swung to one extreme, medicine has swung to the other. If the followers of Mrs. Eddy have laid sole emphasis on the psychical, ignoring the physical, the physician, on the other hand, is tempted to confine himself to the physical, leaving out of account the mental. Had we physicians studied the psychic side of life as we ought to have done, applying psychological principles to the treatment of disease, there can be no reasonable doubt that much could have been done to counteract those delusions which are today spreading with such alarming rapidity. We are leaving the promising field of mental science unexplored; or, if explored, at least unapplied. Why should the physician leave this interesting and important sphere to the untrained quack, that he may make of it a matter of merchandise?

That many of our ailments are of a mental origin, and can be healed by purely psychological means, there can be no question. Into many others the psychical enters as a very important element. This being so, in order successfully to treat the human body, one must know something of the human mind, its laws, and methods of working. Without this knowledge, accurate diagnosis of disease, in some instances, is impossible. When carefully diagnosed, it may turn out that the patient needs the good offices of the clergyman, psychologist, or neurologist. At all events, the physician must be able to make the diagnosis, whoever effects the cure.

Gentlemen, ours is one of the most honorable callings. Let us magnify our office. Man is something more than a bundle of nerve cells, bones, blood vessels and various kinds of tissue. Therefore, the successful practitioner must interest himself in something besides physical symptoms, matters of organic function. So long as man is made of body and mind, so long as they continue to influence one another, so long will the study of the psychical side of human nature be a valuable part of the equipment of him who would minister successfully to its physical side.

Of course, we might hold with Professor Virchow and others, that the brain secretes thought as the liver secretes bile, but we must first prove this, or at least be able to influence a pathological brain secretion by chemical or therapeutic means. As long as we cannot do that, we must make use of psychical treatment in proper cases. In my judgment, osteopathic quacks, etc., will then soon be out of business. Since our object as regular physicians is, and must be, to alleviate suffering and, if possible, cure our patients, let us do that therapeutically, or, if necessary, psychologically.

Within the past few decades medical science has made wonderful strides. What other advances she is yet to make, we cannot even foresee. That a new emphasis will be put on the psychological element in the future, we have every reason to believe. But it is my firm conviction, arising from a conception of the profound need of such investigation, that the

time is ripe for a forward move in this direction. Before us lies a large and fruitful field. Will we enter it?

DISCUSSION.

Dr. Sanger Brown (Chicago): Dr. Eiskemp's paper covers a very broad field; a field so broad and deep in its considerations and allusions, that in order to discuss it at all properly, and reduce the discussion to the time allotted, would require much preparation. I can only venture a few suggestions in the way of discussion.

While we must all agree with the hopes and aspirations that are contained in the paper, and the necessity of developing medicine along the lines of psychology, we must realize that it is a very difficult matter. The laity have very fixed ideas as to the proper field of medicine. They have, likewise, positive ideas regarding the range of spiritual influences, and they have rather a distrust of an individual who seems to them to mingle mental and spiritual influences with medicine. It is a very rare thing for them to wish to be treated by the occult along the lines laid down by the Christian Scientists, and at the same time want to be treated by medicine. There are several practical difficulties that confront us here as physicians. Though we don't hear much of it in a course of medicine as taught in medical colleges, yet we are a very short time in practice before we discover the overwhelming influence of mind, the mental state, the mental attitude in relation to disease. We see it everywhere. The physician of strong and agreeable personality comes into the sick-room, he perhaps dresses well, and has fine appointments; he understands the feelings of the patient and his family. He inquires into the case, is cheerful and sympathetic, and above everything else, sees to it that he inspires confidence. He leaves a little red medicine, perhaps. He is not relying much upon his scientific attainments, but goes away leaving a strong feeling with the people and the patient that the trouble will be relieved. Another doctor comes in with perhaps weak personality, shabby clothing, etc. He may view the matter from a highly scientific standpoint, and if allowed to remain, would get at the bottom of the trouble and make a correct diagnosis; but he will be turned away and probably the other man allowed to go on with the case. This is a practical, psychological matter, and it is not enough taken into account in medical colleges. Students should be taught the importance of taking into account the educational and intellectual status of their patrons. It is a worthy, and should be the primary object to honorably win thier confidence, and then, of course not abuse it.

But we are placed in a dilemma. Those who are willing to admit more particularly those influences that I have hinted at, are afraid to come out broadly and argue for them; for, if we do so, we are liable to be classed with the Christian Scientists, Dowieites and that sort of people. People will say, "He does not believe in medicine; he believes in mental or spiritual influence only," so that we are very much at a loss to know what to do. The Christian Scientists in the practical application of psychology, or suggestion in medicine, have us at a great disadvantage, and I can't see how the chasm can be bridged. We have a patient whose ills we feel

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sure are amenable to suggestion. Suppose we tell him so. He will not believe us, usually, for he has come to us expecting medicine. This same patient may go to the Christian Scientists. They do not say they believe his ills are amenable to prayer, or some occult influence, but they know they are, no matter what the trouble may be. The Christian Scientist thus gets a position we cannot hope to approach, and a patient who accepts his view of the matter gets the whole force of the suggestion, and the Christian Scientist will succeed where we have failed. We cannot afford to take that positive position. We have to live on and practice our profession in a certain community. We are not sure that any case will be amenable to suggestion, and if we say we know it is, soon we are at a disadvantage, or in disgrace, while the Christian Scientists simply maintain that the sufferer was lacking in faith. So I don't see any practical way out of this difficulty.

I do believe, however, observing the methods and scope of instruction followed in the medical colleges, that perhaps in the latter part of the student's course, this matter may be taken up with advantage, if it could be done without in any way weakening his interest and confidence in the science of the concrete. We have to be careful, of course, when we discuss the importance of suggestion that we do not make charlatans of our students. I hope that in some way, sooner or later, the profession may find some way of harmonizing the available truths of suggestions with the concrete scientific facts of medicine, for thus those fallacies of the former would be most plainly exposed.

Dr. Campbell (Chicago): I feel like complimenting Dr. Eiskemp for his very scientific and yet practical paper. We must not lose sight of the credulity of the human family. While human knowledge is widespread, yet we are densely ignorant except along our special lines of investigation. The essayist has mentioned that particular cult known as Christian Scientists and their influence upon the credulous. It is a lamentable fact that the masses are willing to accept almost any absurd doctrine as long as it is believed to be based upon the Bible and wrapped in the cloak of religion. It appears to me not to be a very great step in favor of the ridiculous, for the average orthodox person to accept the christian science dogma. As long as speculation enters into our religious doctrines, just so long will superstition continue to be a formidable barrier to our progression. With all respect for all that is good in religion, I am of the opinion that it is responsible for more ignorant beliefs and practices in medicine, than all other influences combined; when religion becomes more logical in teaching, then and then only can we expect a thorough appreciation of our science.

Dr. C. F. Wahrer (Ft. Madison, Iowa): How much of a quack can a man be and not be a quack? If you won't tell it outside of this room, we are all a little bit quackish. I desire to say by way of parenthesis, in response to remarks just made, that the modern ministers are the greatest enemies that Christian Scientists and all that ilk and cult that exist, ever had.

We have all learned that when we give a patient a prescription, signify how often it is to be taken, and add to it, "According to Directions," give it to the patient and tell him to come back next Tuesday and he will find that he is a great deal better, that we will find that it has a more salutary effect than to do as I did in my early practice. A patient used to come into my office and I would listen in a mournful way to his description of his case, and then in a doubting sort of way I would wrap up some medicine for him, then turn to him and say: "We will try these powders for a while and see if they will do any good; if they don't, we will try something else." That patient invariably came back with the most woebegone expression on his face, and he would begin: "Doctor, I am worse off than when I saw you last, and if I had taken all of your powders they would have killed me." You have all heard the same story. When we talk about psychology we are talking about a thing that has neither location nor name. We will first begin with the concrete, and from that deduct our ideas of the abstract; but we can make speculations and put two and two together, and likely enough it will make four. We may by deduction take certain laws that have been put before us in geometry, trigonometry, philosophy and other exact sciences and connecting them with material phenomena as affecting the mind, establish the science called metaphysics. Certain people have taken advantage of the fact that the mind exerts positive influence over the body, and claim they can heal all the ills that flesh is heir to, by this peculiar science, whether you call it christian science, occult science or osteopathy.

But there are certain things that we have learned to believe that we are pretty sure of, regardless of mental influence. We have learned that croton oil gets there without any suggestion; that ipecac will bring up anything that it goes after; if we put a fly-blister upon a man, it will draw almost anything; a good sized dose of prussic acid will soon cease all speculative influences, no matter what one believes.

Aside from that, however, I wish to speak about Dr. Sanger Brown's red medicine. You will notice that almost all medicines now made are red; you never see medicine with a bluish tint. In connection with this, I will tell a story of a patient who came to me. She was a great, big, fleshy woman who said: "Doctor, I came to consult you about an indisposition of mine." I looked at the woman and concluded that if she did not look upon the wine when it was red, she at least looked upon the victuals when they were good. I said, "You had better go home and take a dose of salts," and she answered, "Salts! why doctor, I would not have come to you if I had only needed salts." I saw which way the wind blew, so I sat down and wrote a prescription:

Magnesium sulph..... oz. iv
Red elixir..... oz. iv

Added the indispensable aqua pura, q. s. and flavored it with sweet things. It looked good, and tasted, oh, so good! I charged her for the prescription and the druggist charged her one dollar for filling it. A few days later I met the patient on the street and she exclaimed, "Oh, doctor, you

don't know how much good your medicine did me! I feel like a new woman; but I have a little of the medicine left." I told her to keep the medicine in a dark, cool place and take it if she felt any return of the symptoms.

As to bridging the chasm between us and these people who use mental influence only, I will say we can make use of more psychology in connection with our remedies, but I am not caring very much whether it is bridged or not, so long as we can use good common sense in dealing with our patients and combine it with our science. Common sense, I desire to emphasize, is a precious heritage, probably an embryonic remnant from our mothers; and a doctor minus that article, no matter how book-learned he may be, is very sorely handicapped in his therapeutic resources. Knowing and believing that psychological influences have much to do with our material resources and their application, I emphatically indorse the paper of Dr. Eiskemp.

Dr. G H. Eiskamp: Mr. President and Members of the Society: I thank you all very much for your thorough and complete discussion of my paper. With what Dr. Sanger Brown has said, I am especially in accord. I did not mean that we should make it a point to tell our patients that we were going to hypnotize them, or make suggestions. This is a resort in extreme cases. The doctor here must have misunderstood me. I think therapeutics is the greatest boon that has ever been given to suffering mankind, but I think we should pay a little more attention to the impressions we give out to our patients than we do. I have seen cases of major surgery turning out badly just because the influences surrounding the patients were improper. I have seen them die, when it is possible that different surroundings might have saved their lives. I don't mean to say that I believe suggestion is going to save us from dying, if conditions are such that death is inevitable, but I know that there is a great difference whether a physician comes into the sick-room full of courage and hope in serious cases, or whether he comes in letting his chin drop down, and by his looks saying as plainly as words can say, that it is all over.

WHAT IS THE OBSTETRICIAN'S DUTY?

By Florence Patrick, M. D.

BURLINGTON, IOWA.

THE subject matter which we have at our hand regarding the technique of the conduct and management of obstetric work is abundant.

The necessity for the general adoption of these advantages which, while their advent is comparatively recent, are yet *indispensable*, requires emphasizing. That not only in individual instances, but whole sections or districts can be cited, wherein obstetric work is performed after the manner of thirty years ago, we all know.

It does seem that in the rapid march onward which has been made since the introduction of antiseptic measures, midwifery has been left far in the rear. How common it is to find a general practitioner, who, in the performance of his routine work in office or elsewhere, has recourse to the protection afforded by the now indispensable bichlorid comp. tablets, whether that work involves the care of an injured finger or other member, the examination of an eruption on the skin, the care of an abscess—it matters not, it is performed with an eye to surgical cleanliness. Now let that physician be called to an obstetric case. If it be a normal delivery, slow or fast, tedious, or the child be precipitated into the world, it is allowed to progress to its completion, or rather till the fetus is expelled without any interference on the doctor's part in the way of cleansing, to say nothing of shaving the vulva or making other preparation of the bed than those in attendance have already made for the reception of the infant and the protection of the mother, a necessity patent enough if only in event of laceration; and these cases are not all found in the small centers and country practices, not by any means. It would seem unnecessary to say that such procedure is added to, by a neglect to examine the patient carefully for possible lacerations in the parturient tract. The necessity for such precaution is obvious, for the apparently natural and often rapid or precipitate deliveries produce the greater percentage of those cases, who eventually come into the surgeon's hands for perineal repair, for I do not think that any will deny that the forceps when properly used, tends to the conservation of the integrity of the pelvic floor. Again, the subsequent care given to women who are attended to after such fashion, what is it? And take the uses of anesthesia, the Balm in Gilead in every case, wherein pain is a factor, its beneficence acknowledged, its use indispensable--except in labor. Those who do make use of it, of course, cannot feel that the fact that such is their practice, is overlooked. It is by the sharp contrast between its use and the unspeakable misery, uselessly endured, by its non use that renders the latter method intolerable, and it is more than tiresome to see the subterfuges put upon defenceless women by the doctor who to hold his families in those communities blessed by one or more practitioners, who do show the same mercy to the patient in labor that they exhibit toward her husband, who may require a two-minute anesthetic while removing a thorn

from his thumb or the lancing and cleansing of a boil. Who present does not know of one or more who makes a practice of promising their expectant case that, yes, they will administer chloroform, they will do all in their power to mitigate the suffering of that inevitable hour of darkness, and then when the time does come, put off and put off again, and even resort to the dishonest and unfair statement that it is dangerous, and they would, but they can't risk it, and perhaps for a brief period enact the farce of producing a partial anesthesia, and the critical hour past, endeavor to hold the respect and esteem of that outraged patient by the trifling and untruthful statement that she is not a fit subject for chloroform.

It is unnecessary to make any comparison between labor and other processes which are accompanied by pain. The need—great need—for an awakening in this respect must be apparent to all. The lack of attention to and the careless disregard of the pregnant woman's welfare is all too common. Except it be in exceptional cases of emergency work, all surgical cases are carefully prepared for operation, no slightest detail is too unimportant to be omitted and rightly so. But the act of maternity must also be regarded in the light of a surgical case, and I think all will admit, a serious condition.

To permit a pregnant woman, the conduct of whose delivery is bespoken beforehand, to approach to full term without a careful supervision of the general health and welfare of such an one, is worse than careless. This supervision embraces everything pertaining to the health and comfort of the patient, the hygiene of the person, the care of the nipples and breasts, attention to diet, regulation of bowels and the very essential watchfulness to be maintained by a sufficient number of examinations of the urine to ensure a quick discovery of a possible albuminuria. In lieu of any of these and other precautions what is the ordinary custom? When asked to take care of a given case, enter the probable date in an obstetric note book, and when sent for, go to the confinement, generally wait for delivery and then tie the cord, collect the fee and depart.

Long is the list of topics in this department of our science that are waiting discussion and an indefinite length of time could be consumed in their enumeration, however, that part of the work which I have endeavored to express a few thoughts upon, is not of the active stage of labor, but rather upon the work left to be performed after the labor is completed. Each case of labor must, of necessity, be considered a law unto itself, yet there is a line which should mark the physician's duty, a varying line, truly yet distinct and clear. The patient herself, her home, environment, the quality and fitness of the nurse are some of the features that make necessary the just mentioned variation. When a physician undertakes the care of a pregnant woman, he or she, should acquaint him or herself with a fair knowledge of the patient's surroundings and circumstances. The time preceding the onset of labor and the experience gained during that process, acquaints one sufficiently with the help at hand, with the service which the lying-in-woman will receive, be that help merely the members of her family (by no means an uncommon circumstance), a husband, daughter, sister, friend, or a nurse regularly employed, competent or in-

competent, as may be. From the sum total of the doctor's observations must the deduction be made aud upon the result of his observations must rest the duties which conscience and professional zeal and honor alike, impel him to assume. Many agencies and conditions conspire to throw the onus of this admittedly self-imposed duty upon the honest obstetrician. If we desire that the spirit of commercialism do not become the dominant principle of our life-work, if we wish to maintain in fair proportion the ideal in our beloved and honored calling, then we must be governed by the circumstances in each case we are called upon to attend in obstetrics, as in other surgical work. And inasmuch as the duties of motherhood are as essential and as holy as we know them to be, and as we try to impress this truth upon these timid, shrinking women, the mothers of families ranging anywhere from one to five or six already, and who come reluctantly enough to our office to know if perchance they are again pregnant, and if so if there is no relief, so do these women deserve better care after they have carried their burden and been delivered than they too oftentimes get. A little labor and thought expended in a judicious seeking for the reason why this particular type of case seeks a certain knowledge of her condition, and then perhaps a relief for it, will reveal a somewhat startling sameness of object in the reasons averred. One of the most common is, after the general dread of labor, that they just can't bear to face the two, three, four or more months after they are up and around the house, "the dragging around feeling, more dead than alive," "feeling as if all the contents of the pelvic cavity would drop clear into the world" as they usually put it, and the "bearing down sensation whch renders keeping upon the feet a perfect torture," and many similiar expressions; the complaint of inability to eat and of nervousness of headache and backache, of loss of sleep, these and kindred complaints are very common, and they are, I believe all traceable in large measure to the lack of proper care during the period following childbirth, and I wish to emphasize this; these patients are not criminals, nor yet would-be criminals. They belong nearly always to the honest, well-meaning class of our working population, the wives of husbands who cannot afford to keep sufficient help in the house. They reside in town and country alike, and their work, multiform in character is never-ending, family cares and household duties, hard to specialize, yet all indispensable, their lives very often are unappreciated, and of their heroic endurance and their patience with pain, God and themselves alone know. It has seemed to me that the presence of this class of patients in one's office is an unspoken, unconscious appeal to us for more efficient care at that time when it is so sorely needed, and that period covers not only the traditional nine days, but until strength and a normal condition of health generally, is established. The public has been made alive to altered conditions in other departments, they can also be made to grasp this need, and we can have done with the unreasonable and unscientific hypothesis that because a woman does not die during confinement, and that as child-birth is a physiological process, therefore she is all right.

I have made special reference to the wives of the working world, because they are the mothers of the largest families, as a rule, and are the

greatest sufferers from our present lax-system of treatment during the lying-in-period. Like all other rules this has its exceptions. There are some natures that will not brook inattention at this, or any other time, and the class too, in whom the law, said to be nature's first law, is exceeding strong. Such will look out for themselves. The leisure class also suffer less, for with money no object, ample attention is sure, but despite the exceptions the general rule prevails and leaves much to be desired.

There is a way for advancement to better methods and a general improvement is easy; but to reach all cases properly, is out of the question under existing circumstances. Were the public educated to the use of the lying-in wards or hospitals, as they have been to the benefits derived from the hospital care in other surgical cases and in general illness, then would we have an ideal state of things. Necessity has wrought this change in some of the remote sections. In the west where neighbors live miles apart it has become quite common for the expectant mother to be removed from the isolated ranch into town, there to await her labor where aid is at hand when required. Loss by death and bitter experience, not the profession, has wrought this change, as is manifest by the fact that accommodation for this class of patients in those same towns is almost wholly lacking, and many of the women fall into the hands of ignorant and unclean nurses or midwives, when they do remove temporarily to town to ensure to themselves safe delivery. Yet that these ranchmen and farmers' wives have recourse to this precaution is a hopeful sign. It points the way to certain sure possibilities in this branch of hospital work.

And, members of this Tri-State Society, in the development and found ing of lying-in-wards and maternity hospitals throughout our entire great country, in the educating of the people to this, lies the solution of and the remedy for one of the greatest menaces to America. A danger which threatens not only America is it, but the entire civilized world; the rapidly lessening number of children born each generation, and especially is this so among those whose successive generations in our land are most needed. The reflections suggested by this problem are calculated to become more than disquieting, even though we say to ourselves that the foreign element will for a time stave off this nightmare. But I would ask you if it does not lie within the province of our day and generation to set in motion the means by which such calamitous conditions can be averted? When the cities, towns and villages, large and small, throughout the length and breadth of the United States are equipped with suitable lying-in wards or maternity hospitals, as may be best, and when the women of this nation know beyond peradventure that they can be assured of good care, that they will be surrounded by every safeguard during their parturition and convalescence, and that they will again be restored to health and strength precisely as other surgical cases are, and by no means an item to be overlooked or left unemphasized, that from an anesthetic standpoint they shall suffer no loss, that they will become again what they were before in figure, complexion (for a reasonable personal pride is inseparable from selfrespect, and as necessary to the maintenance of high moral tone as any of the other attributes that go to make up the personnel of a desirable mother),

when these conditions have been established, then can we hope to have an end of the growing condition which we all deplore and fear, and speaking for my own sex, I honestly believe that the duties now shrunken from will be assumed naturally, easily, and as Almighty God proposed they should be, and when this much to be desired time shall have come, there can be given to the just delivered patient a safe conduct through her convalescence an opportunity to fit herself for the duties awaiting her brain and hands, can be given close watchfulness over her condition and a correction of whatsoever may need it, laceration slight or extensive, a possible subinvolution, too free blood discharge, the appearance of sepsis even after days of normal record lassitude and weakness subsequent upon the performance of too heavy work during pregnancy, sleeplessness from care of a fretful or sick baby, or any of the many irregularities that beset the pathway of these cases.

And I wish in closing to put in a good word for the adoption of a properly fitted abdominal bandage, such as can be worn comfortably for a few weeks after confinement. The sense of support and comfort it affords is very great, and aside from that its use from an anesthetic standpoint cannot be overestimated. As a preventive agent against the acquirement of a pendulous abdomen in those mothers who are obliged to keep about the house from the hour they are able to resume their usual routine the application of the bandage would be fully warranted, did it serve no other purpose.

FEVERS OF THE PUERPERAL STATE; FROM THE SURGEON'S STANDPOINT.

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PERHAPS the most deplorable fact connected with our boasted twentieth century knowledge of asepsis and antisepsis is that puerperal infections are today—outside the modern hospitals—practically as common as they were in preantiseptic days! In lying-in hospitals where the parturient woman is considered a wounded woman, and treated with the same attention to surgical cleanliness as if the peritoneum were being opened; where surgical principles are rigidly applied to obstetric work, the mortality from "child-bed fever" has been reduced to zero; and from these institutions we have learned the important truths:

(a) That the temperature of the woman properly confined should never rise above 99 deg. F.

(b) That the old idea that there must be a "milk fever" is erroneous; normal labor and normal puerperium are attended by normal temperature.

(c) That any deviation from this rule means septic infection of some kind—generally the fault of the attendant, and therefore preventable.

But while the mortality has dropped to practically zero in institutional work, in country practice and in the work of city men not perfectly familiar with the aseptic technic fevers of the puerperal state are fully as abundant as of yore, and in the practice of midwives the fatalities are truly appalling.

CAUSES OF HIGH MORTALITY.

The terrible mortality may be ascribed to several things:

I. Non-familiarity with the various causes.
II. Inappreciation of the term asepsis.
III. Gross carelessness.
IV. Meddlesome interference with a natural process.
V. Spread of venereal diseases.

I. The time is gone when any physician who makes any pretense of being "up with the times" can be content to say: "This patient has puerperal fever" or "'that woman has puerperal sepsis," or "the other patient has puerperal peritonitis"—these are all terms of the days when we were just emerging from the darkness of the older pathology. He must be more definite—not especially that he may make a correct clinical diagnosis, but because the intensity of the attack and the prognosis depend upon the character of the poison producing the fever; nay, more: the very selection of the proper treatment, surgical as well as medicinal, must be based upon an exact knowledge of the pathological condition present as well as the causation thereof. It is true that in some instances differential diagnosis is, as yet, impossible, but in a large majority of cases it is possible to clearly determine the precise cause, and intelligently apply proper measures.

Thorough comprehension of the general subject of acute septic infections of the genital tract, puerperal or otherwise, involves a study of practically all of the pyogenic bacteria, a special knowledge of the natural history of each variety of fungus implicated, and finally a critical analysis of the clinical phenomena each may produce.

At the outset several important facts may be formulated and made prominent:

1. The normal vulva constantly contains myriads of bacteria, pathogenic as well as innocent, which may be easily introduced into wounds of the genital tract by careless methods.

2. The normal vagina of the pregnant woman does not contain any of the pyogenic micro-organisms, hence "autoinfection" of the pelvic organs is not a possibility in natural labor.

3. The vagina contains innumerable forms of non-infective bacteria normally, but these disappear at the cervix, no microbes ever being found in the cavity of the uterus under natural conditions.

4 The secretions of the cervix uteri, as well—in less degree—as those of the vagina possess mild antiseptic power, so that unless an unusually large number of virulent organisms be introduced no severe infection is apt to occur.

VARIETIES.

1. Saprophytic infection.
2. Streptococcus infection.
3. Bacillus coli communis infection.
4. Staphylococcus infection.
5. Gonococcus infection.
6. Pfeiffer bacillus infection.
7. Klebs-Loeffler bacillus infection.
8. Infection with vibrion septique (Pasteur).
9. Pneumococcus infection.
10. Mixed infection.

1. SAPROPHYTIC INFECTION ("SAPREMIA").

The most common, the most dangerous and the most easily cured infection of the lying-in period is saprophytic in origin. The vagina of the average woman contains saprophytes—the germs of decomposition—which no amount of preliminary douching will destroy. Under common conditions these germs are non-pathogenic, but when a piece of placenta is left behind, when large blood-clots remain in the uterus, or when the drainage of even the natural discharge of blood from the uterus is interfered with putrefaction begins. Frequently the uterus is able to expel the foul, infected, stinking mass and the worst that then happens is an offensive lochial discharge with a slight rise of temperature. In other instances Nature is not able to care for the patient, and an illness of intense degree arises. The clinical history and proper treatment of this form of puerperal infection may be told in the following case history:

Mrs. A., patient of Dr. W. M. Dunn, aged 30, in her second confinement, was perfectly comfortable until thirty-six hours after the fetus was expelled, when she had a slight elevation of temperature; a few hours later there was a sharp chill followed by a temperature of 106. She was admitted to the Woman's Hospital with distended abdomen, putrid discharge from the vagina, temperature 106, but skin cold and "clammy," slight delirium, heart intermittent and weak. Examination showed the os well dilated, but a fragment of placenta and some remains of the membranes hanging in the cervix (Dr. Dunn had not been in attendance until a few hours before her admission to the hospital, and therefore was not responsible for her condition—the accoucheur being a "professor" in a St. Louis college). Removal of the putrescent mass with copious irrigations of mildly carbolized hot water immediately relieved the condition and restored the woman to a practically normal puerperium. In this instance it was possible to remove the offensive material with the fingers and a strong current of hot water.

When one is called to a case of "puerperal sepsis" the first point to be determined is whether the condition is sapremia or septicemia—to use the phraseology of yesterday. It being decided that it is a fever due to saprophytic infection, i. e., bacteria of decomposition working in retained debris, there is but one thing to do—clean out the uterus and vagina

thoroughly, and at once. From the always well-dilated or the stinking putrid mass may be removed by the fingers or a dull curette or spoon with irrigation—the sharp curette means death!

For irrigation formalin solution, one-half of one per cent, will be found cheap and effective. When the patient is not treated at all, or is improperly managed, the disease progresses rapidly until death closes the scene.

Mrs. R., patient of Dr. H. G. Nicks, was admitted to the Woman's Hospital December 9, 1901, suffering from puerperal sapremia. She had been delivered by an eminent practitioner of St. Louis, who unfortunately left some placental fragments and membrane in the uterus. Saprophytic infection promptly followed and he, mistaking the indications for treatment, instead of removing the putrifying mass with a spoon or large dull curette, chloroformed the woman and "scraped out" the uterus with a sharp curette. While the decomposing material was greatly diminished by this procedure, there was a great outpouring of blood which in turn became retained and infected with the bacteria of putrefaction. The fever, therefore continued at 105, delirium ensued, diarrhea followed, the skin became cold and clammy, and Dr. Nicks was called. But it was too late—the venous sinuses reopened by the use of an improper instrument allowed the system to become overwhelmed with the saprophytic poison and she died in profound coma, the temperature record showing a trifle less than 108 deg F. Here was a life sacrificed by the fact that a busy practitioner did not recognize saprophytic infection and treat it according to surgical principles.

Packing the uterus in such cases is improper—a simple gauze drain through the os being sufficient. In ordinary cases repetition of the irrigation is not advisable—the possibility of engrafting a streptococcus or staphylococcus infection upon the already injured part is a greater danger than leaving some decaying matter behind. On account of this menace to life the utmost care must be maintained during operative procedures—as strict asepsis must be maintained as for any other operation; the simple existence of a stinking discharge is no excuse for dirty surgical procedures. If the temperature again rises above 102 or 103 after the fall, which always follows emptying and irrigating the uterus and vagina an intrauterine douche is advisable. A second curettage is rarely permissible, especially if the first has been perfect, unless a secondary infection with pyogenic organisms occurs.

2. STREPTOCOCCUS INFECTION.

Next to puerperal sapremia streptococic infection is the most frequent of the septic fevers with which parturient women become affected. Germs of erysipelas are everywhere; notably under the finger-nails of doctors! The physician who attends scarlet fever, erysipelas, carbuncle and other infective diseases in which the streptococcus plays an important, if not a causative role, is almost certain to infect his patients if he attend confinements without taking the most extraordinary precautions as to hand disinfection. This fact was indeed known, clinically, long before we had any knowledge of the streptococcus; as was also the fact that dissection of

dead bodies by an obstetrician would cause "child-bed fever" before we learned that saprophytes are the cause of decomposition—as well as the most virulent form of puerperal infection.

Streptococcus infection generally occurs through a wound of the perineum or the lacerated cervix, occasionally through the uterine tissues primarily. As this germ is one which does not readily give rise to extensive suppuration we can readily understand how it happens to result in huge inflammatory exudates in the pelvis—the uterus, tubes and ovaries often becoming welded into a solid mass from the pelvic peritonitis and pelvic cellulitis—without the formation of an abscess in either the tubes or the cellular tissues. Later on if "resolution" does not occur, and particularly if a mixed infection (with staphylococci or bacilli coli communis) arise pus may form either as pyosalpinx or abscess of the broad ligament. The various manifestations of streptococcus infection as well as their management are best told in the following case histories:

L. J., patient of Dr. Geo. Howard Thompson, was delivered at the Woman's Hospital. There was complete laceration of the perineum necessitating immediate suturing. By imperfect preparation on my part, or by reason of the rectal tear streptococcic infection occurred. On the fifth day there was a slight rigor with a succeeding temperature of 101½, with much pain at the line of sutures. Examination of the wound showed a mild, erysipelatous blush which next day presented the characteristic appearance of erysipelas as seen elsewhere in the body. As there was no evidence of pelvic complications, and the temperature did not go above 104, the uterus was not examined nor treated. Bichloride douches (1 to 1000) of the ostium vaginae and external application of carbolic gauze (1 to 20) constituted the sole treatment, under which the disease ran a mild course and terminated favorably by the end of the fifteenth day. The uterine and vaginal discharges were, in this case, able to take care of the internal genital organs, so that the woman is now in excellent health save for a perineum imperfectly united.

Here was a case in which active surgical treatment would have resulted disastrously. Had intrauterine medication or curettage been attempted there is no doubt that acute pelvic peritonitis would have followed, possibly fatal. The good result came from judicious noninterference. It typically represents the mildest type of streptococcus infection — one in which the fever depends entirely upon the local infection of a wounded surface. Unfortunately such slight attacks are rare, and limited to perineal infections. When the streptococci have been introduced directly into the uterine tissues through (a) a lacerated cervix, or (b) the wounded endometrium there is quickly set up a metritis and pelvic peritonitis.

Mrs. P. L., patient of Dr. J. C. Sullivan, was delivered by midwife. Everything seemed to go well until the seventh day when a severe chill occurred, followed by temperature of 103½. Next day another chill was succeeded by a fever of 104½, and the next day the register was 105. On the fifth day of the fever the doctor made vaginal examination and found the uterus fixed in a mass of exudate. Rightly divining that curettage would be worse than useless, and that the only hope of receiving a favora-

ble termination lay in supportive treatment and local measures calculated to cause absorption of the exudate Dr. Sullivan used quinine and strychnine internally and hot douches thrice daily with glycerine and ichthyol tampons at night. Gradually the fever subsided and a slow convalescence seemed established when a hard chill and acute fever, followed by sweating, foul tongue, mawkish breath and other evidences of sepsis showed that pus had formed and needed operative measures. On admission to the hospital at the end of her sixth week the pelvis was found completely filled with exudate, the uterus was immovable, deep fluctuation could be detected in each broad ligament and pyosalpinx was suspected in addition to the abscesses of the connective tissue around the uterus. The os was gently dilated and the uterus irrigated with lysol solution; the abscess cavities were opened and the thin, ichorous pus allowed to escape; the pus-pockets were gently curetted and packed with iodoform gauze. Three weeks later the general condition having greatly improved the two suppurating tubes and the infected uterus were removed by abdominal section, and the patient made a slow but perfect recovery.

Here was a case in which, had a bacteriological examination of the uterine discharge revealed nothing but a pure streptococcus infection at the time of highest fever, Marmorek's antistreptococcus serum might possibly have been of benefit; but I must confess that thus far I have been disappointed in its use in streptococcus septicemia. Intravenous injection of normal saline solution proves beneficial in a small percentage of cases. The chief indications, however, are supportive measures of the strongest kind (whiskey, strychnine, food, etc.), non-interference with the endometrium, local antiseptic treatment (douches and tampons) and opening of pus-pockets as soon as they can be detected, either above or below.

Mrs. C., patient of Dr. J. T. Walsh, developed fever on the ninth day after confinement, the temperature and progress being much the same as in the preceding case up to the period of pus formation. Instead of an abscess developing there was gradual absorption of the pelvic exudate, but a year later the woman was still in ill-health, and pelvic examination shows both tubes and ovaries fixed at the bottom of Douglas' cul-de-sac, chronically inflamed, tender, enlarged; the patient a semi-invalid; perpetual sterility and ill-health before her, unless she submit to pelvic section for relief.

These are the cases which fill our hospitals and sanitaria, and which give such brilliant surgical results so far as mortality is concerned—often dubious enough so far as the happiness of the patient is involved if she be true woman with the mother-instinct.

3. BACILLUS COLI COMMUNIS INFECTION.

This microbe inhabits the large intestine and plays an important part in the production of appendicitis, suppuration of ovarian cysts, etc. The proximity of the anus to the vagina renders contamination of perineal wounds and lochial discharges very easy.

Two hours after her delivery I was called to sew the perineum of a primipara in previous good health. The tear extended to the anal margin.

There was also an extensive tear of the left side of the cervix, which I did not attempt to repair. She had been attended by a competent man who had used every necessary antiseptic precaution. But in transferring her from the table to her bed her bowels moved, and by a semi-conscious movement of her hand the patient smeared wound and vulva with fecal matter. The greatest care was used to again disinfect the parts, but an acute inflammation with intense suffering necessitated removal of the sutures on the fifth day. The cervical wound became infected and a thin purulent discharge followed. At no time did the body of the uterus become implicated in the inflammatory process, nor did the temperature of the patient ever arise above 101½; but an abscess formed to the left of the uterus, in the loose connective tissue, which had to be widely opened and loosely packed with gauze. Bacteriological examination of this pus as well as the discharge from the cervix showed colon bacilli and a few undifferentiated staphylococci; that from the perineal wound gave bacillus coli communis predominating, with staphylococcus epidermidis albus in large numbers also.

Many of the mild puerperal fevers, hitherto regarded as light septicemia, will in future, I believe, be classed as bacillus coli communis infections.

4. STAPHYLOCOCCUS INFECTION.

When it is remembered that the various forms of staphylococcus are found everywhere in air and dust, on all cutaneous and most mucous surfaces it is astonishing that infection with this germ is not more common in the puerperal state. That its tendency is to produce purely a local suppuration (the staphylococcus pyogenes aureus being the particular germ of the "laudable pus" of our medical ancestors) rather than general infection is the probable explanation. When general infection with it does take place the course is about as follows:

Mrs. B., patient of Dr. W. H. Townsend, was confined with her first child without chloroform or forceps; labor normal with slight tear of perineum. She had a suppurating sore of the finger, and in spite of the doctor's warning would change her gauze pads. On the third day there was a slight chill, with temperature of 102 following, and a few days later suppuration of the perineal wound was noted. The fever continuing an eminent teacher of obstetrics was called and although the uterus was not fixed nor greatly enlarged, nor tender, on account of the continued fever (100 at morning and 101 at night) he curetted, without obtaining anything except blood. There was a chill soon after, followed by much pain in and above the uterus. Three weeks later an abscess could be made out to the left of the mid line above Poupart's ligament. Under chloroform I opened this and evacuated a quart or more of staphylococcus pus, gently curetted the abscess walls and stuffed with gauze. Good and speedy recovery has followed. Examination of the pelvis under anesthesia showed the uterus to be freely movable and no larger than natural at the time after labor.

Here was a case in which the folly of curettage of the uterus in some forms of "puerperal fever" is apparent. The temptation to "do some-

thing"(for a fee?) in the way of operation should be resisted to the limit of simply following the plain indications only.

5. GONOCOCCUS INFECTION.

In cities where gonorrhea is so common, puerperal infection dependent upon Neisser's coccus is, in my opinion, next in frequency to that caused by the streptococcus; and it is far more common in country practice than generally believed.

The symptoms are not so acute as in sapremia or streptococcic septicemia, but are sufficiently severe to be alarming. The course of the disease does not differ materially from gonorrheal pelvic peritonitis in the non-puerperal woman except in the intensity of the initial chill and fever.

I. C., patient of Dr. G. H. Thompson, contracted a gonorrhea some weeks before an abortion. Three days after abortion (induced by a female doctor) chill, fever and abdominal tenderness developed. Next day Dr. Thompson found temperature 101, pelvic peritonitis developing, uterus enlarged and tender. Curettage and drainage did not improve her condition, so she was admitted to the Woman's Hospital. For three weeks the peritonitis ran a mild course under the use of salol and codeine, with mild laxatives, and douches of hot water thrice daily; the temperature gradually dropping from 101 to 99. Then a sudden chill and a rise of fever to 104½ with intense abdominal pain seemed to call for immediate abdominal section On opening the abdomen it was found that an acute gonorrheal pyosalpinx had ruptured and general peritonitis resulted. The abscesses were removed and the pelvis cleaned and drained, but death from acute sepsis followed in thirty-six hours.

This is the typical history of this form of infection—up to the time of rupture of the pus tubes. Usually the patient lapses into chronic invalidism until she falls into the hands of a surgeon who recognizes the condition, and either kills or cures, according to his particular skill. Most of the patients recover perfect health after thorough operation.

6. PFEIFFER BACILLUS INFECTION.

When we consider the general prevalence of lagrippe and the now well-known tendency of the Pfeiffer bacillus to produce pus under favorable circumstances we may well be surprised at the probable infrequency of puerperal infections due to this microbe.

Mrs. S., known to be suffering from la grippe at the time of her expected confinement was admitted to the Woman's Hospital for accouchment. On account of her bad condition every possible precaution was taken—she was confined on a glass table in the surgical operating room, under chloroform anesthesia, with forceps, with the same care given to abdominal section patients; but of course on account of the necessity of frequent changes of the bichloride dressings over the vulva there was more or less exposure of the perineum which was lacerated to the extent that four sutures were needed. Everything went well until the seventh day when the nurse reported the perineal wound "irritated." Examination showed it to be infected in some manner—there was a thin, irritating pus

around each of the stitches. On the ninth day (the general grippal symptoms having all disappeared and the friends expecting the woman to sit up next day) there was an unexpected rigor, the temperature shot up to 107½ and dissolution seemed imminent. Within two hours she was anesthetized and the uterus dilated and curetted, as the high temperature seemed to indicate delayed sapremia; nothing being found except the same thin, pale pus which covered the perineum. The perineal sutures were cut and the wound (which showed no tendency to unite) allowed to gape. Examination of the pus from both perineum and uterus showed nothing but pure Pfeiffer bacilli present. Next day the temperature dropped to 96⅘ and again rose to 107, when 10 grains of acetanilid with one ounce of whisky were given. Antiseptic douches were given every six hours, with intrauterine douches once daily, and large quantities of strychnine and milk punch by the stomach. For six days the temperature varied from 97 to 106, and then gradual convalescence occurred; with full restoration to health. At no time was there any uterine fixation or tenderness, tubal enlargement or sign of peritonitis.

The remaining three distinct forms of puerperal sepsis are so rare that I pass them without special reference. I have seen but one case of pure Klebs-Loeffler bacillus infection in a perineal wound; and neither of the other two. Mixed infection is very common, especially staphylococcus with streptococcus, and streptococcus or staphylococcus with gonococcus. It simply adds seriousness to the situation, and calls for more care to prevent their occurrence in dealing with any form of puerperal infection.

CONCLUSION.

In conclusion, I wish to state emphatically that "puerperal fevers" will practically disappear when doctors and midwives learn that:

The woman in labor and immediately after should be treated upon the same rules of antisepsis as govern the surgeon in the most extensive operation.

DISCUSSION OF DR. FLORENCE PATRICK'S AND DR. EMORY LANPHEAR'S PAPERS.

Dr. Emil Ries (Chicago): The paper of Dr. Patrick I think should not go without a word of praise, containing, as it does, so many good suggestions, which I am afraid will only become thoroughly useful when there is a penalty imposed on forgetting. We have given these suggestions for ages—as suggestions, as advice, and, in some states and countries they have been made laws, and are sinned against every day. I wish the paper could have a wide distribution and be read as carefully as it deserves.

Regarding Dr. Lanphear's paper, he uses the phrase, "In the language of yesterday," speaking of the distinction between saprophytes and other germs. I am sorry to say that Dr. Lanphear's paper is in the language of yesterday, not only in respect to bacteriology, but in respect to the treatment of septic uteri—not all the treatment, of course. I refer especially to the famous dull curette; I refer to the intrauterine douche, and I refer to the rules brought out to support the doctor's advice. The theories are of yesterday and the treatment is of yesterday. There was a

time when we did not know anything about this curettement, and when it was first brought out it carried the world, especially as it came supported by a very exact authority. Reports concerning it were received from good men, and apparently the treatment was well supported. The treatment has been in existence for probably some twenty years, and the advanced and better obstetricians are about beyond it. The use of the dull curette has been relegated to the antiquated methods. The use of the intrauterine douche is counted among the dangerous procedures, and the whole theory of the treatment is exploded. I have not done the exploding nor the relegating. I am one who follows; but I can tell you of some personal experiences. I had the good fortune to be an assistant in a hospital where we had some two hundred septic cases a year. It had a special pavilion for septic cases and all doctors who sent their patients away, sent them there, and they were very glad to send their septic cases away.

We started in with the treatment much on the lines of the dull curette, the intrauterine douche was given every six or every twelve hours, we employed continual irrigation with antiseptic solutions, with normal salt solutions we operated extensively. Of course, what Dr. Lanphear said about opening up abscesses is absolutely correct; there is no discussion on that point at all, but I am speaking of the septic endometrium and the removal, not only of this, but the removal of the whole uterus. The results were just the same. If you have a case of typhoid fever with an infection of the bowel by the typhoid germs, and you scrape every typhoid ulcer in the bowel, have you cured the typhoid fever? If you have a case of diphtheria and you scrape out the throat and remove the membrane, scrape the tonsils, apparently all traces of the disease away, have you cured the diphtheria? You all remember that when we did not have the antitoxin, we pulled away the membrane from the tonsils, put antiseptic solutions on them and in the throat, and when it spread out we did everything we could to remove the disease; did we cure the cases? In a case of pneumonia with infection by the pneumococcus, give any drug to that patient, let him inhale any antiseptic solution that you like, but does it cure the pneumonia? That is where the difficulty is. You can put as many antiseptic solutions as you like on the surface of the human mucous membranes; underneath the germs grow lustily in spite of all. We have been advised to use the dull curette as it does not do so much harm. With the dull curette we take away nothing but the dead tissue and the sepsis is beyond that. If you take the sharp curette, you don't even take it away then. Why not? If I make a very small sketch, I can make it plain in a minute.

Here is the surface, the endometrium, on top of it the dead, sloughing tissue. The infection migrates along the lymphatics down here into the interstices between the muscle bundles and goes on into the uterus along the blood vessels, into the broad ligaments to the nearest lymphatics, and so on, and if you take out the whole uterus you have not all the sepsis. One man, a good surgeon, a very thorough man who knew his pathology, went further. This sketch shows the uterus, tubes, ovaries, the vagina, the lymphatics starting from them and going into the lumbar glands along the spermatic vessels. The surgeon was not satisfied with the tak-

ing out of all these organs, but removed also the broad ligaments and lymphatics away up. The patients died just the same.

When you have a septic infection you cannot remove the sepsis by an operation, unless you remove everything that is infected, and that means more than we can do—more than is now within the domain of surgery.

I treat my septic cases very little. I don't curette, I don't use intrauterine douches, I don't take out the uterus in the acute stage, and I don't go in with my fingers and manipulate the uterus and force infection into the lymphatics. I treat exactly as for typhoid fever. I will go in there if there is hemorrhage; I go in and take out the remnants of placenta and pack, and I know every time I do that, that there is a risk of the patient having her first chill directly afterwards. If I can avoid going into the uterus at all I will avoid it every time.

Dr. C. E. Paddock: We have clinical evidence in cases coming to us with high temperature, rapid pulse and every indication of infection. We explore the uterine cavity, find particles of retained placenta, or membranes, or blood clots, and after removing the same by the finger or by the intrauterine douche the temperature and pulse almost immediately return to the normal. We have cases coming to us with retention of a large part of the placenta which we remove. Now does Dr. Ries mean to say that he would leave the removal of such retained particles as these to Nature?

Dr. Gustav Futterer (Chicago): I do not care to say anything about the modes of infection of the uterus, as that has been so well covered by Dr. Lanphear. I do, however, wish to recommend the use of oil of wintergreen, a two minim capsule every two hours until five or six doses have been taken daily. If the patient objects to taking the oil by mouth, it may be given by the rectum by mixing a teaspoonful of the oil with four tablespoonfuls of cool milk. This should be injected into the rectum every two hours from four to six times a day. An energetic, but well directed use of Merck's or Fisher's oil of wintergreen in all septic conditions, will be found of great benefit.

Dr. Fenton B. Turck (Chicago): I wish to say a few words in reference to the two papers that were given here this afternoon, the first dealing with treatment after parturition and the other with the accidents of infection. In the conditions described in Dr. Lanphear's paper, the expectant plan of treatment is now generally adopted. In the first paper where we have a description of normal labor, the after-treatment is a subject that is particularly interesting, because so much can be accomplished and so many ill after-effects avoided by a little care. From the fact that I see a great many cases showing the results of improper care after parturition, I am interested in this class of cases. Landau calls attention to the fact that a large proportion of cases of gastroptosis and enteroptosis are the direct results of lax abdominal walls following parturition. He calls attention to the folly of letting the abdomen go without a bandage and the lack of care given these cases, and makes the sweeping assertion that all cases of enteroptosis are the result of lax abdominal walls. Other observers acknowledge this as an important etiological factor, but not the

only one. Another important one is defective development. Following Dr. Patrick's remarks, it might be well to call attention to one or to methods for the prevention of bad effects following parturition. I shall discuss a little the therapeutics indicated in these cases.

The arterial bandage does not increase arterial pressure, relieves the vascular system, but does not cause hypertrophy of the abdominal muscles. I have found that an extension system of exercises is of almost inestimable value in these cases, and should be generally adopted. Extension movements can be made that will wall into use the abdominal muscles and may be practiced several times a day without fatigue, and I have devised a little arrangement that can be used in bed. I call it my H exerciser. This apparatus consists of two double cords stretched from the head of the bed to the foot, running parallel to each other, from two and a half to three feet apart, a horizontal bar being placed at about the distance of the extended arms. Hence the name, "H" exerciser. The double cords are so attached to the bar that this may silde up and down with friction resistance. The extended arms, grasping the horizontal bar, push it forward and withdraw it, in a motion similar to turning a grindstone. The arms and legs should not be flexed, but kept rigid, thus throwing the work upon the body. As the body is bent forward and downward, there is resistance from the cords above and below, and as the circle is completed in coming backward and upward, there is again resistance, but in the opposite direction. A period of rest occurs when the cycle is complete, giving ample time for equalization of the circulation. In the beginning, a pause of about two minutes should follow after five cycles, the number of which are to be increased day after day until twenty-five cycles are made between rest periods. The physician should regulate the amount of exercise according to indications. These exercises can be begun by the parturient woman after the third day, from a few minutes in the beginning and gradually increasing, repeating the exercises two or three times a day.

Dr. Campbell (Chicago): The paper read by Dr. Patrick is commendable. The general technique of obstetrical practices is not too well understood. There are a few points in Dr. Lanphear's paper that I wish to consider. He furnished us with a report of a case following child-birth which had been curetted with a sharp curette, which terminated fatally, ascribing the death to the sharp curette. I am of the opinion that it is not so much the curette as the method of using it. I had thought the profession were pretty well agreed as to when curette, and as to the best kind of instrument to use. I believe less harm is done with the sharp curette than with the dull one. Dr. Ries has given us a report from the German hospitals in which he claims that all of the usual methods of treatment, as mentioned by Dr. Lanphear have been tried and discarded in the treatment of infection following labor. Have the Germans offered us any better treatment? or have they lowered the mortality in this class of cases by the do nothing treatment as advocated by Dr. Ries? I believe my own clinical experience justifies me in the use of the curette for the removal of retained portions of placenta, especially where there is evidence of saprophytic infection.

Dr. C. H. Andersen (Chicago): This discussion reminds me of the time I was going to Asheville and we were switched off. I wish to compliment Dr. Lanphear on his paper, and I wish to speak of those cases that died. I believe as Dr. Ries does, that if the patient has a high temperature, the infection has gone beyond the uterus, and I believe in treating not the cause but the effect. What does the patient die of? She dies of infection of the blood. I believe that every one of those cases should be bled, and they should be transfused with hot, normal, saline solution. It cures some of these cases—at least 1 per cent are cured. The patients die of toxicity of the blood, and if one pint of this blood is removed and the patient is injected with hot salt solution, the heat stimulates the central nervous system, stimulates secretion of the kidneys, throws off other toxic elements, and there is a general thinning of the toxic material by the salt solution. I have seen in Dr. Ferguson's clinics many such cases, and we have cured a few of them. It is a valuable way to treat these cases that are going to die, and it seems to me that it is a very practical thing to do.

Dr. H. A. Leipziger (Burlington, Ia.): It is interesting to note from this discussion, and also from the feeling of the profession in general that it seems preferable nowadays to take a parturient woman to a hospital. I think it was late in the 70s that the Semmelweis method of using chlorinated water as an antiseptic was introduced into the Vienna lying-in hospital, and changed a veritable slaughter house of death by puerperal sepsis into a harbor of safety. Garrigues read his paper on antiseptic midwifery in 1883, and at that time introduced the treatment into the Maternity Hospital of New York. I was interne at that time and had the pleasure of carrying out Dr. Garrigues's treatment. In September, out of fifty women in the ward, ten had puerperal sepsis. On October 1, he introduced antiseptic treatment, and the result was that for six months following there was not alone no fatality, but scarcely any morbidity in the hospital referable to sepsis. At that time I remember that at the Academy of Medicine of New York, it was stated that the country doctors said they never seen puerperal sepsis—that it did not exist outside of the city hospitals; and now we look for our puerperal sepsis cases outside of the hospitals in country towns and homes.

I think the impression has gone out from Dr. Ries' remarks that he would not go into the uterus for anything excepting hemorrhage. I think that it would be unwise if this were given out as advice to men in the beginning of treatment in a septic case. A man who is called to a case where he suspects that there is a piece of placenta remaining in the uterus, would act unwisely or dangerously if he were constrained by such advice to leave that alone. Certainly quality as well as quantity cuts some figure, and if you cannot remove all the foci of infection by curetting, it must be of decided advantage to remove as much as possible of the material that gives rise to that poison. If we could qualify our cases, as Dr. Lanphear has stated, then we should know how to treat them, but coming across them as we do, it must be admitted that the home obstetrician and the general practitioner must, if not with his fingers, then with

the dull curette, or some other instrument, remove the material that produces sepsis.

Dr. J. C. Murphy (St. Louis): I was a little amazed at the statement of Dr. Ries that he would not go into the uterus for but one cause, and that cause hemorrhage. Any one who has had a dozen cases in the whole course of his career, has seen what beautiful results were obtained from curettage. We have heard a little about the eight or ten kinds of bacteriological infection, but I am willing to bet $50 to 5 cents that there are not 15 per cent of the general profession in this country who could tell a piece of infected tissue from a piece of wall paper, under the microscope; they "all look alike to them." They know that their patient had a baby a week before, and now has had a chill and a temperature, and that there is an offensive discharge from the uterus. The practitioner's main object is to get rid of it. It is not possible that a man of Dr. Ries' undoubted ability would say that it is the wrong thing to try to clean out a uterus that he finds in that condition. He did not mean that, but a good many people will take him literally.

Regarding the use of the dull curette, I would as soon try to shave with a dull razor as to curette a uterus with a dull curette. But it is the man behind the curette, as it is the man behind the gun, who, if he knows his business can go into the uterus with the sharp curette, and he won't go too far. It is very doubtful if we have an antiseptic that will be powerful enough to overcome infection that has gone into the blood, and it seems to me to leave the infected uterus entirely alone is like having a break in the water-pipe in the other room and standing in this room with a mop and attempting to take up the water with that as it flows in, when, if we went back and repaired the pipe, the overflow would cease. There are so many undoubted evidences that we do get rid of infection by taking it at its site, that it seems to me almost criminal if a doctor has a puerperal infection, for him to leave the uterus alone. I don't believe in intrauterine douches, because if there is a local infection, by pouring large quantities of antiseptic solution over it we are liable to wash the infection up into the tubes and then somebody will have to operate for pus tubes, sooner or later. The curette has a certain field of usefulness, and when the right man has hold of it, he can do a great deal of good. We would not give a shot-gun to a four-year-old boy, and we would not give the sharp curette to a man who has had no experience with its use in the treatment of cases of puerperal sepsis.

Dr. Florence Patrick: I wish to thank you, gentlemen, for the discussion and criticism of my subject. It is gratifying to know that the objections made are not that the radical change suggested is not necessary, but that the question is a hackneyed one and the change impracticable. The general opinion as expressed by this convention in the discussion of papers kindred to mine, is that the objectionable and undesirable accompaniments and sequelae of pregnancy and parturition occur outside of the maternity hospitals, in those sections where hospitals facilities are impossible. Therefore can we deduce that such hospitals are a necessity and a

possibility, and I think that the gradual education of the people to the necessity of lying-in hospitals, is inevitable, and sooner or later must prevail.

Dr. Emory Lanphear: In reply to my good friend, Dr. Ries, I am sure he was thinking of my words of praise and my recommendation that the society elect him to its presidency very soon, as a tribute to his good work for the society, as well as for our profession at large, instead of listening to my remarks on the treatment of puerperal infections of various types. Those who closely followed my paper will recall the fact—which I presumed indeed, would meet with opposition on the part of some—that I advised against the use of the curette or intrauterine medication in every variety of infection excepting that single form dependent upon retention of decaying material in the uterus (so-called sapremia; better, saprophytic infection) and for this condition I recommended the use of fingers, a large Volkmann's spoon, or a dull curette—anything to remove the decomposing, putrid mass without injury to the endometrium. Just as earnestly as does Dr. Ries, I condemn the ordinary "curetting." Curetting may be proper treatment for some forms of chronic endometritis, but in acute infections it is worse than useless, and so I said, "the sharp curette often means death." Personally, I do not like a dull curette; I never use one. A large Volkmann's spoon removes the debris far better, but it must be used with care, as its sharp edge may easily wound the endometrium. There is nothing wrong with the endometrium in these cases of saprophytic infection; the indications are to remove the decaying matter from the uterus by the most convenient means. with irrigation to assist in getting the fragments out. Dr. Ries surely does not, cannot oppose such a practice! If he were called to see a woman on the third or fourth day after confinement and found her with a temperature of 105 or 106, and a nasty, stinking discharge from the uterus, and on examination by vagina found a lot of putrid placenta, or decomposing blood-clot, or membranes protruding through the os, does he mean to have us infer that he would not gently dilate the cervix and remove the decomposing stuff from the womb? Surely not. And after so doing, or while doing it, would he not use an irrigator to wash out the debris? If not, he will lose a large proportion of his cases of saprophytic infection, as Nature unaided is not capable of caring for many of these patients. I do not advise an "intrauterine douche;" I said that 'if'—which must be rare—'conditions are such that the attendant feels that an intrauterine, or even a vaginal douche must be again employed, he must give it himself—never trust it to a nurse. The danger of engrafting a streptococcus or staphylococcus infection upon an already injured membrane, is far greater than leaving a little decaying material in the uterus.' Hence, intrauterine irrigation should not be practiced except in extreme cases, and never by a nurse or an assistant.

So much for saprophytic infection. Relative to the curette in puerperal sepsis due to the streptococcus, bacillus coli communis staphylococcus, gonococcus and other forms in which pelvic peritonitis or pelvic cellulitis play an important part, I said that in almost every instance the curette is worse than useless; the infection has passed beyond the uterus

long before the symptoms become alarming. Experience taught many of us this long ago—we didn't have to go to Germany to learn it. So too of hysterectomy. It is only in the rarest of cases, where the uterine wall is filled with multiple abscesses and the patient has passed the dangers of acute sepsis, that removal of the uterus is justifiable. I have long ago abandoned hysterectomy in the acute cases, save for one class: When the pelvis is filled with pus and the uterus is in the way of perfect drainage, it may be removed merely as a matter of convenience in hastening the operation and securing better drainage; not with the idea of curing by the operation alone.

On the whole, I am convinced that when Dr. Ries reads my paper he will agree with practically all my points. I know the pathological portions are in part new to medical literature. The treatment in each variety is that which I have found best adapted to each, based upon a consultation practice in a city where unfortunately such cases do much abound.

I am glad Dr. Futterer has called attention to the remedies from the internal use of which benefit may be expected. The medical side of these cases is too much neglected by the surgeon; thus, on the other hand, the average general practitioner is apt to rely too much upon internal medication and to lose valuable time in the use of quinine and opium instead of resorting to prompt and proper surgical measures. And this is especially true of saprophytic infection. In the slower forms of sepsis the measures advocated by Dr. Futterer are certainly worthy of trial.

As to the assertion of our President, that most doctors are not capable of making a differential diagnosis with the microscope, I will say: First, it is possible for any doctor to distinguish between saprophytic infection and sepsis, without bacteriological knowledge, and that is the first and chief point in diagnosis. Second, there are many members of the Tri-State Medical Society who do know enough of practical bacteriology to make the diagnosis I mention, and, the time will soon come when every doctor must have this knowledge, or be relegated to obscurity in his profession.

Dr. Emil Ries: Dr. Paddock has asked me a question. He wants to know if I would not go into the uterus in a puerperal sepsis case, if the whole placenta was left. I should not regard such a case as one of puerperal sepsis; the woman is in the third stage of labor. Suppose that we had a case in which a large piece of placenta was left in the uterus and the woman had a fever. Do I take it out, or not? Is anybody going to tell me that a large piece of placenta can be left in the uterus and we have no hemorrhage? I have never seen a case where hemorrhage did not result from such a condition. I have stated that where there is a piece of placenta, I stop the hemorrhage by removal of the placenta. If I am called to a case where I suspect that there may be a little piece of the placenta left, but there is no hemorrhage, I leave that little piece alone as long as there is no hemorrhage. I wish to repeat that in a case where there is a hemorrhage from the uterus of a puerperal woman with sepsis, I stop the hemorrhage by cleansing out the uterus. If there is no hemorrhage, but there is a fever, I don't touch the uterus at all.

REMARKS ON SPLANCHNOPTOSIS.

By Byron Robinson, B. S., M. D.,

CHICAGO.

SPLANCHNOPTOSIS, relaxed abdominal walls and prolapse of the abdominal viscera, is a widespread disease. I will discuss, first, shortly the three great etiologic factors of splanchnoptosis, viz.: 1. Relaxed abdominal walls. 2. Distalward movements of viscera. 3. Gastro-duodenal dilatation, and secondly the fundamental methods of treatment in splanchnoptosis, viz.: (1) drainage of the visceral tracts; (2) abdominal supporters; (3) union of the musculi recti abdominales in one sheath; (4) the fixation by sutures of the overlapping fascial abdominal walls, and (5) gastro-enterostomy.

1. THE ABDOMINAL WALL.

Its Elemental Fibres Elongate and Separate.—The elements of the abdominal wall are (a) fascial fibers; (b) muscular fibers, and (c) elastic fiber. In splanchnoptosis these three elemental fibers elongate and separate, producing a relaxed abdominal wall, and the viscera lose their chief support. The special fascial lines of the abdomen which visibly yield are the linea alba and the lineae seunlunares, i. e., the fascial fibers elongate and separate. The special abdominal muscles which yield on the musculi recti abdominales which elongate, separate, become diastatic, allowing visceral hernia. The physiology and anatomy of the abdominal wall is to support and fix the viscera. The mesenteres are not for mechanical support, but act as neuro-vascular visceral pedicles. The abdominal wall is a hightly elastic apparatus fitting exactly the condition of the viscera.

If any of the fascial muscular or elastic fibers become elongated or separated the delicate balance of the viscera is lost—anatomy and physiology become deranged.

The cause of relaxed abdominal walls lie in the elements of the wall, viz., fascia, muscle, elastic fiber, skin and peritoneum. The most frequently supposed course of relaxed abdominal walls is rapidly repeated gestations as the distention of pregnancy produces physiologic elongation and separation of fascial fibers (especially diastasis of the recti abdominales) with elongation and separation of the elastic fibers. For reasons not well known the physiologic relaxed abdominal walls of pregnancy are not always completely restored. However, many other conditions of intra-abdominal pressure induce relaxed abdominal walls.

2. DISTALWARD MOVEMENTS OF VISCERA AND ELONGATION OF NEURO-VASCULAR VISCERAL PEDICLES.

The Viscera Becomes Dislocated.—The mesenteres are not designed for mechanical support, but should be termed neuro-vascular visceral pedicles to indicate their office. The viscera are controlled in the abdomen by the mesenteries much as a specimen in a jar of fluid with the cord at-

tached to it. The abdominal wall supports the viscera in the same way that the fluid in the jar supports the specimen. Since the mesenteries are not for mechanical support as soon as the abdominal wall the real mechanical visceral support become relaxed, the viscera follow the yielding walls. Also the mesenteries possessing but slight resistance to trauma, the weight of the viscera rapidly elongates them to the extent of the relaxed abdominal walls. In other words abdominal viscera will follow relaxed abdominal

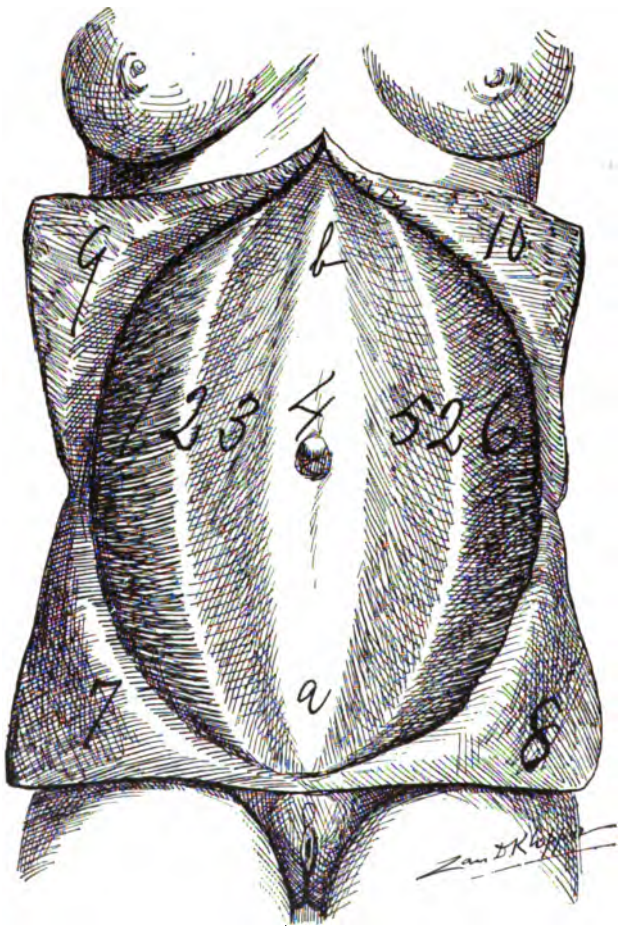

FIG. 1.—Splanchnoptosis in which the fascial and muscular fibres of the abdominal wall have separated and elongated. a, the fascia at the linea alba (4, a-b and 1, semilunares (2-2) has yielded by separation and elongation of its fibres; b' all the muscles of the abdominal wall have yielded by separation and elongation of their muscular fibres; c, the musculi recti abdominales (3-5) have yielded by diastasis. The chief fascial separation and elongation is at the linea alba, 4. since the mesenteries, i. e, the neuro-vascular visceral pedicles are not for mechanical support the viscera follow the yielding abdominal wall. Separation and elongation of the fascial and muscular fibres induces visceral ptosis (derangement in circulation, assimilation, secretion and sensation) and pain from trauma on the periphery of the nerves inducing neurosis.

walls because the walls are the chief visceral support and not the mesenteries. The reason that elongated mesenteries and dislocated viscera do not exist in the physiologic relaxed abdominal walls of pregnancy is because the increased volume of the uterus forces the viscera proximalward. In the relaxed abdominal walls of the puerperium, senility and diseased conditions the viscera are found dislocated in the distal end of the abdominal cavity. Also the mesenterial insertion on the dorsal wall passes distalward.

3. GASTRO-DUODENAL DILATATION.

This is rather a result of the relaxed abdominal walls and distalward movements of viscera than an etiologic factor of splanchnoptosis. However, it is a logical consequence of the third stage. Gastro-duodenal dilatation is caused by compression of the transverse segment of the duodenum by the superior mesenteric artery vein and nerve. Gastro-duodenal dilatation is a very widespread disease, and is chiefly mistaken for gastric dilatation. The fixation apparatus of the duodenum, especially its transverse segment does not allow it to pass distalward, and hence the more extensive the splanchnoptosis the more vigorous does the superior mesenteren artery vein and nerve clamp the transverse duodenal segment. Gastro-duodenal segment, gastro-duodenal dilatation begins definitely on the early establishment of splanchnoptosis.

The results of splanchnoptosis are extensive disturbances.

In general in splanchnoptosis canalization is compromised, nerve periphery traumatized, motion, secretion, respiration, visceral function, circulation and muscular contraction are disordered—ending in malnutrition and neurosis.

In special organs splanchnoptosis plays its chief role.

- **Tractus Vascularis** — Arteries, Veins, Lymphatics
  - Dislocation
  - Lumen compression
  - Dilatation
  - Contraction
  - Anemia
  - Congestion
  - Disordered circulation
  - Malnutrition
- **Glands**
  - Excessive secretion
  - Deficient secretion
  - Disproportionate secretion
- **Tractus Respiratorius**
  - Accelerated
  - Slowed
  - Irregular
  - Disordered deficient
  - Oxygenation
- **Visceral Function**
  - Exacerbated
  - Inhibited
  - Irregular
- **Nerves**
  - Traumatized (pain)
  - Disordered motion
  - Disordered sensation
  - Muscular inco-ordination
- **Tractus Intestinalis** (Damaged the most)
  1. Lumen
  2. Rhythm disordered
  3. Secretion — Excessive, Deficient, Disproportionate
- **Tractus Urinarius**
  4. Nerve periphery traumatized
  5. Kink and flexures made more acute
  6. Supports tensionized.
  7. Blood and lymph circulation compromise
- **Tractus Genitalis**
  8. Accessory glands compromised in canalization, secretion, motion, rhythm and nerve periphery

The diagnosis of splanchnoptosis is made by impection, palpation, percussion, mensuration and by elevating the abdomen with the hands.

The treatment of splanchnoptosis is (1) medical, (2) mechanical, and (3) surgical.

MEDICAL TREATMENT.

Drainage (*hydrotherapy*).—The medical treatment of splanchnoptosis will always be the most important, because it applies equally to all cases. It is announced in the one word drainage. The visceral tracts should be drained by eight ounces of hot one-half normal salt solution every two hours for six to eight times daily.

The souverin drain is semi-normal salt solution (normal salt solution nauseates). One-half pint of hot semi-normal salt solution every two hours regardless of meals establishes regular daily evacuations of the tractus intestinales, increase the amount of urine and sweat, washes the internal tissues and relieves the system of waste laden blood. In a few months with such treatment the patient's appetite, sleep, evacuation of tractus intestinalis, urinarius and perspiratorius are wonderfully improved. The subject feels practically well. Salt rubs of the skin stimulates the nerve periphery and secretion of the sweat glands. The food should be legminous, cereals, vegetables, graham bread, i. e., such a character as to leave a fecal residue so that the muscularis of the tractus intestinalis will have resistance on which to exercise. Fecal residue also stimulates the mucosa to active secretion. Concentrated foods, as meats, pies, cakes, pastries and pudding should be forbidden to splanchnoptotics as they irritate the tractus intestinalis and leave an insufficient fecal residue to excite muscular action—peristalsis.

Regular and ample drainage during the lifetime of the splanchnoptic is the only hope of health. I use the following compressed into a tablet, formerly of Parke, Davis & Co.

Socat. aloes	gr. ½
K. H. CO_3	gr. ½
Na H CO_3	gr. 1
Mg S O_4	grs. 2

Fl. ext. case sig. gr. 1-40.

The splanchnoptotic is started by taking one-half of the tablet in one-half a pint of one-half normal salt solution every two hours for six times daily. In about two months the patient does not require the tablet, the one-half pint of semi-normal salt solution every two hours being amply sufficient to drain all visceral tracts. The splanchnoptotic suffers chiefly from non-drainage and from deficient and disproportionate secretion with consequent fermentation and meteorism—indigestion.

Constipation is the fate of the splanchnoptotic from lack of expulsive powers of the abdominal wall. The dyspepsia frequently accompanying splanchnoptosis is mainly owing to non-drainage of stagnant contents in the digestive tracts. The more the subject is drained, the less waste-laden blood with mental and physical depression, the less meteorism and intra-abdominal pressure.

Massage and gymnastics are excellent remedies to strengthen the abdominal muscles, which in turn massage the abdominal viscera aiding peristalsis and blood lymph and fecal circulation.

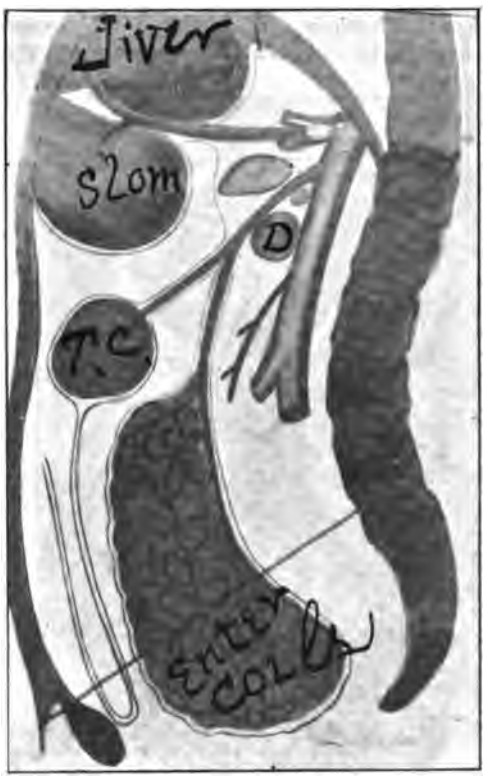

FIG. 2.—A profile view to illustrate how the transverse segment of the duodenum is clamped by the superior mesenteric artery, vein and nerve in splanchnoptosis. Note the excessive distalward movement of the collective loops of the enteron. The more the loops of enteron pass into the pelvis the more acute becomes the mesenteric aortic (vertebral) angle. This illustrates the third factor in splanchnoptosis. D, duodenum. C, colon.

2. MECHANICAL TREATMENT.

Abdominal Supporters.—Much utility and comfort arise from the use of properly fitting abdominal supporters. The kinds we have used are: (1) non-elastic, (2) elastic, and (3) the author's pneumatic rubber pad placed inside of an elastic or non-elastic abdominal binder. The objection against the use of an abdominal binder in splanchnoptosis, because it does not teach the muscles self-strength, is as worthless as the objection against the use of a splint in fractures. The fact to remember is that the abdominal muscles are stretched beyond self or independent help. Abdominal supporters do not cure, but properly fitting ones help the patient to com-

fort and usefulness. It is not sufficient to recommend a binder. The physician should examine it to be sure that it fits properly, both for the grade of splanchnoptosis and for the avocation of the patient. The difficult of fitting a proper support is due to the varying position of the patient—walking, sitting or lying. The author has invented a rubber air pad which has the shape of an axe. This is placed inside of the binder, and subsequently filled with air to the desired size. The rubber air pad insures a

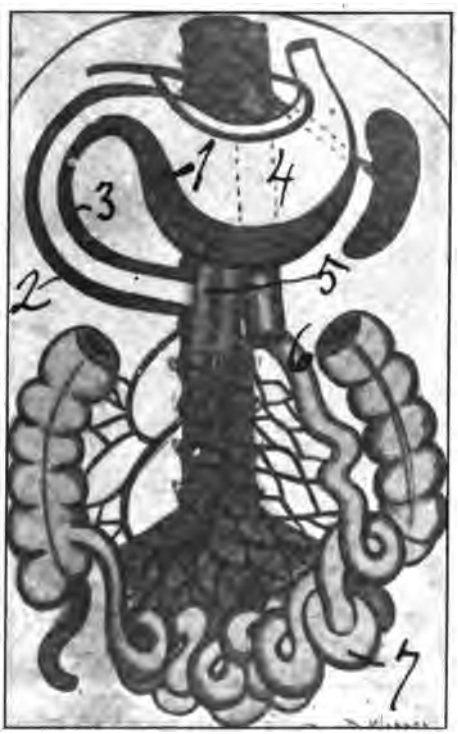

FIG. 3.—Front view of gastro-duodenal dilatation from compression of the transverse segment of the duodenum by the superior mesenteric vein, artery, and nerve. 1, 2 and 3 colored portion showing dilatation of stomach and duodenum; 4, stomach; 5 superior mesenteric artery vein and nerve bound in a strong bundle and compressing the duodenum against the vertebral column; 6 jejunum (note how its natural size is retained, while on the opposite side the duodennm is dilated). 7 Ent ronic loops in the pelvis dragging under and more on the structure compressing the duodenum.

fitting of the abdomen like a water bed, whether spare of fleshy, and also the size may be adjusted to the comfort of the patient. The binders are useful in moderate nephroptosis, which is the easiest of all splanchnoptosis to aid, but when it has become advanced, binders are not only of little value, but frequently harmful. In severe or distinctly diagnosable hepatoptosis I have seen none or little utility in binders. All tight waist bands should be removed, and clothing should be suspended from the shoulders, or from hooks on a corset waist. If one experiment on a dead body with

a tight-fitting corset, the organ which will suffer the widest displacement will be the right kidney. All tight corsets should be abandoned, but a so-called waist corset is useful to adjust and from which to suspend the clothing.

Since binder is to restore elongate and separated fascial and muscular fibres of the abdominal walls, it must fit snugly, especially the distal ab-

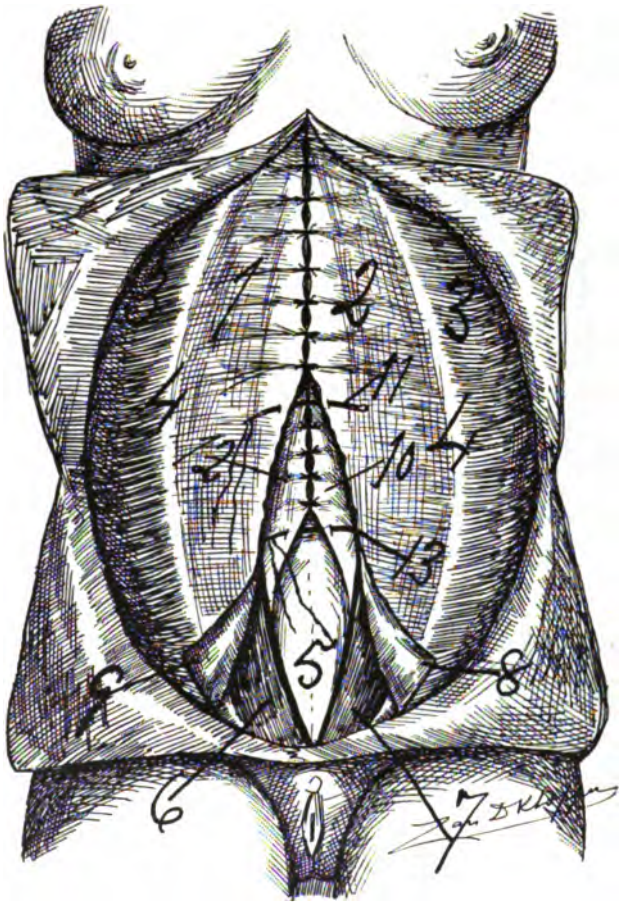

FIG. 4.—Operation for visceral ptosis by placing the two musculi recti abdominales in a common sheath; 6 and 7 are the recti muscles; 12 and 10 is the posterior sheath, being sutured: 7 and 11 is the anterior sheath, being sutured. This restores the poise and balance of the viscera; 7 and 2, sheaths of the recti; 3 and 3 external oblique; 5, linea alba and 4 and 4, lineae semilunares.

domen. Two rubber tubes must be employed passing between the limbs to fix the binder so that it will not slip proximally. The binder generally only forces dorsally and proximally the abdominal wall, but the addition of the author's pneumatic rubber pad adds to this the forcing of the viscera proximalward by acting like a pregnant uterus which lifts the vis-

cera toward the thoracic diaphragm If the splanchnoptosis is not too far advanced, the rubber pneumatic pad being adjusted and blown up while the patient lies on the back, will prevent the viscera gaining the lesser pelvis—the dangerous ground for stenosis of ducts, vessels and viscera, and traumatizing nerve periphery. The binder should be removed or loosened for the night's rest.

Finally I have abandoned all narrow abdominal binders and now use an abdominal binder belly shaped which extends from pubic crest to the xiphoid cartilage with the pneumatic rubber pad placed inside, so that ventral as well as lateral abdominal walls are supported.

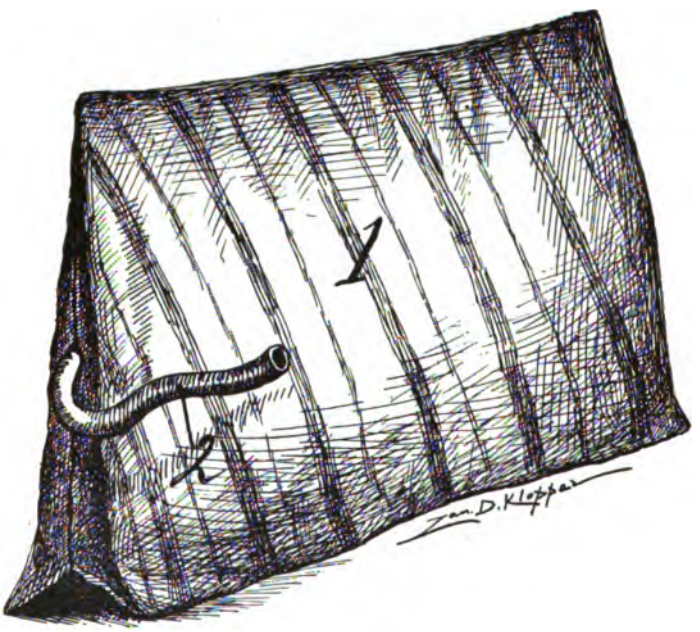

FIG. 5.—Author's rubber air pad for visceral ptosis half distended. It is to be placed inside an abdominal supporter. 1, side of rubber pad; 2, the rubber tube through which the rubber pad can be distended with air. (This rubber air pad is manufactured by John Drake & Co., of Chicago.)

SURGICAL TREATMENT.

1. *The Union of the Two Recti Abdominales in a Single Sheath.* —My attention was first called to the subject of lax abdominal walls by Prof. Karl Schroder, whose pupil I was for a year. In that year (1884-1885) Prof. Schroder, the greatest gynecologic teacher of his age, was at his zenith of fame, and his clinic was vast. In fact, he tapped the whole of Europe for his material. He discussed in his clear style the misfortune of lax abdominal walls, and he resected the large oval segments of the abdominal wall lying between the diastatic recti abdominales. He then united the sheaths of the recti in the median line. But Prof. Schroder said then to his pupils that he was not fully satisfied it was the

best surgery that he knew at that time. Later German surgeons improved on Schroder's ideas by splitting the sheath of the recti and enclosing both the recti abdominales in one sheath by uniting the recti sheaths ventrally and dorsally to the recti muscles. In 1895, Dr. Orville W. MacKellar and I operated on a woman pregnant four or five months, where the diastasis of the recti abdominales was very marked, and the uterus, on coughing or extra-intra-abdominal pressure, would project between the recti abdominales. We united the split sheaths of the recti anterior and posterior, enclosing the two musculi recti abdominales in one sheath. Dr. MacKellar reports to me at present that his patient is perfectly well, and the operaion was a success. Dr. MacKellar was at the delivery and the recti sheaths remained perfectly intact. For the post-operative hernia, for years past at the Mary Thompson Hospital, I have split recti and enclosed them in a single sheath. Every one with sufficient experience knows that the post-operative hernia of any considerable size, in women over 40, is in every case accompanied by splanchnoptosis. Dr. MacKellar and I have records to show that six years after enclosing of the two recti abdominales in a single sheath, for splanchnoptosis, the operation is a success. The mesenteries are not to suspend the viscera, but to act as a neuro-vascular visceral pedicle, and to prevent the entanglement with other viscera. It is the abdominal wall that holds the viscera in position.

Besides I showed in 450 detailed records of personal autopsic abdominal inspection, that in 96 per cent of the subjects the enteron has a mesenteron sufficiently long to herniate through the inguinal, femoral or umbilical rings. Hence the mesenteries must be looked upon as neuro-vascular visceral pedicles, and not as suspensory organs, while the abdominal walls are the great supporters and retainers of the viscera. And as every anatomist knows, the recti abdominales are among the chief regulators or governors of visceral poise, at least they retain the viscera in their first delicate normal balance. In uniting the two recti abdominales into a single sheath the operation may be performed without entering the peritoneal cavity. I think this operation has a large field of usefulness, for it can be performed without entering the peritoneal cavity and after any laparotomy.

2. *For Gastro-duodenal Dilatation—Gastro-enterostomy.*—In all cases of advanced splanchnoptosis gastro-duodenal dilatation exists, due to compression of the transverse duodenal segment by the superior mesenteric artery, vein and nerve. I have carefully tested this matter in abdominal autopsies for nine years.

Gastro-jejunostomy.—This I consider one of the best surgical methods to overcome extreme gastro-duodenal dilatation. I proved in gastro-jejunostomy in dogs, ten years ago, that it will enable the stomach to contract, because the food does not tarry in the stomach, but passes immediately into jejunum and ileum, the business portion of the tractus intestinalis. Any segment of the tractus intestinalis containing no contents, or over which no food travels, will remain contracted.

Any one can prove this by excluding a segment of the bowel from fecal circulation; it soon contracts and remains in that condition. In

1894, Dr. Lucy Waite and I made an abdominal autopsy on a man aged seventy years, in which the stomach rested on the pelvic floor, presenting enormous gastro-duodenal dilatation. But the duodenum transversum practically remained in its original location and relation.

This illustrates that, since the duodenum cannot pass distalward with other viscera, on account of its attachments, that it can be relieved only by turning the fecal current over another route. Gastro-enterostomy has, in the operation for relief of gastro-duodenal, a much wider and more useful range than for malignancy or stricture of the pyloses.

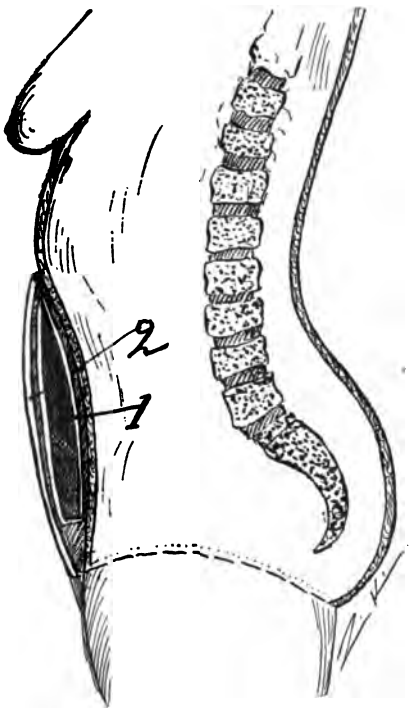

FIG. 6.—Profile view to illustrate the pressure of the rubber air pad on the abdomen. 1, distended rubber pad; 2, wall of abdominal supporter over rubber pad.

My first case of gastro-enterostomy for gastro-duodenal dilatation in 1894 was performed on a patient of Dr. C. Henry, of Fostoria, Ohio. This patient vomited for nearly two years. At the operation the stomach and duodenum were found enormously dilated due to compression of the transverse segment of the duodenum by the superior mesenteric artery, vein and nerve. The stomach occupied the pelvis. I performed gastro-enterostomy with my segmented rubber plates. In 1901, seven years subsequent to the gastro-enterostomy, Dr. Henry informs me that she is perfectly well.

3. *Overlapping of the Fascia of the Abdominal Wall.*— This consist in dissecting the skin and subcutaneous fascia bilateral ward from the median line after which the entire remaining abdominal wall of one side is placed ventral or dorsal to the other like a double-breasted coat and fixed in position by sutures. The skin and fascia is sutured in the median line. This method of operating requires a long incision. Twelve years ago while on a visit to my friend Mr. Jordon Lloyd, of Birmingham,

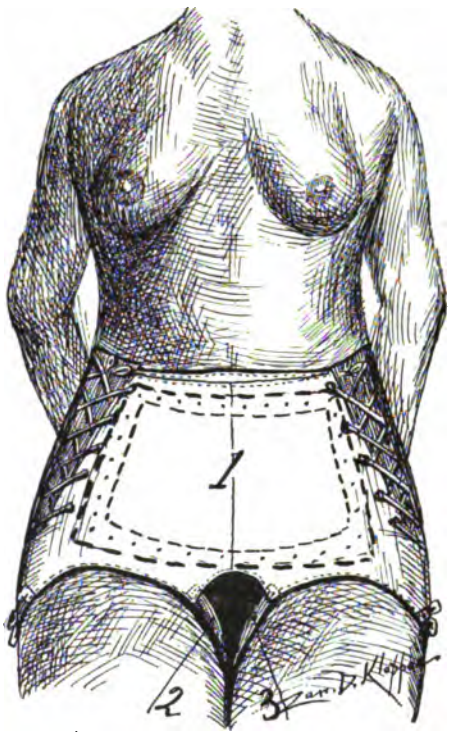

FIG. 7.—The rubber air pad is fitted to the abdomen inside the abdominal supporter. 2, 3 are rubber tubes to fix the abdominal supporter.

England, I was indelibly impressed with the utility of overlapping of fascial layers in hernial operations and have used the method more or less since with success. My experience with overlapping of abdominal fascial layers in abdominal sections has been very satisfactory. Heidenhain in an excellent recent production reports successful results by the overlapping fascial method. The umbilicus should be resected to avoid infection. The overlapping fascial method will aid in relieving the diatasis of musculi recti abdominales which holds the viscera in delicate pain.

PRACTICAL CONCLUSIONS.

(a) There are three conditions to consider in splanchnoptosis, viz.: (a) relaxed abdominal walls, thoracic and pelvic diaphragms; (b) splanchnoptosis, and (c) gastro-duodenal dilatation. The disease is remarkably common, especially in females.

(b) The general effect of splanchnoptosis is compromising of circulation (blood and lymph) and respiration, traumatizing nerve periphery, impairing elastic and muscular tone of the abdominal walls and deranging secretions and muscular co-ordinations. Its results are malassimilation and neurosis.

(c) Splanchnoptosis stenoses or kinks the lumen of ducts, vessels and viscera.

(d) Splanchnoptosis is dislocation of the abdominal viscera. A viscus is dislocated when it is fixed permanently out of its place. More adults have dislocated viscera (from local peritoneal adhesions) than normal ones.

(e) Splanchnoptosis appears to be to a large extent of congenital predisposition, as its subjects are generally feeble, slender, atonic, highly neurotic, ill-nourished, deficient in vital force with weak physiologic and anatomic structures, with apparently a hard struggle to battle for life and against its forces. It seems sufficiently difficult for the splanchnoptotic merely to live, without attempting to work or reproduce children. They are consequently physically and mentally weak.

(f) The symptoms of the splanchnoptotic are complex and numerous. Each cause in splanchnoptosis produces a viscious circle of pathologic effects on the viscera, circulation, respiration, nervous system and nourishment. Splanchnoptosis is often mistaken and wrongly diagnosed as neurasthenia, nervous exhaustion, hysteria, spinal anemia, menopause, etc., nervous dyspepsia and neurosis.

(g) The large and complex groups of symptoms produced by splanchnoptosis must be considered independent of inflammatory processes.

(h) Large numbers of so-called dyspeptics are splanchnoptotics.

(i) Stellar's costal stigma of floating tenth rib I have not studied sufficiently to make a report.

(j) The splanchnoptotic appears neurotic, slender, and delicate, poorly nourished, pale, non-energetic, tired, and as a sad, helpless picture. Splanchnoptotics form a distinct class, with peculiar characteristics, like a class of tubercular subjects to which they are related.

(k) Splanchnoptosis is a general disease of all the abdominal viscera; the tractus intestinalis, urinarius and genitalis are equally affected, but from anatomic mechanism the tractus intestinalis suffers the most. All splanchnoptotics have genital ptosis and nephroptosis

(l) In diagnosis it is well to palpate every abdominal viscus, first in the horizontal position, and second in the erect position. The liver, spleen and kidney, may appear dislocated only when standing erect. Frequently the musculi recti abdominales are so diatatic that one can palpate every abdominal viscus through the fascia of the linea alba thinned by the elongation and separation of its fascial fibres.

(m) Since my clinic and private practice has consisted of 90 per cent of women, I cannot estimate the percentage of splanchnoptosis as regards sex.

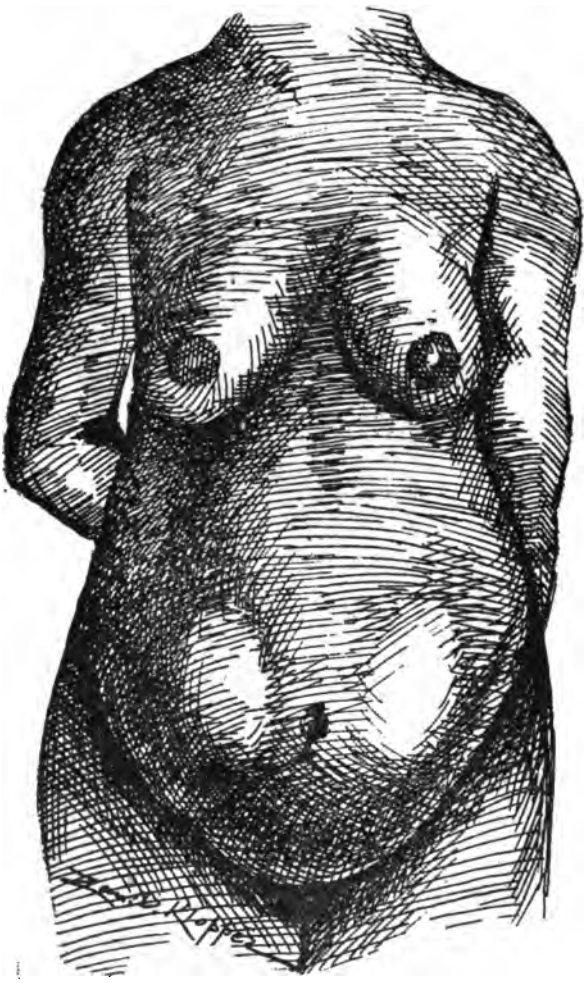

FIG. 8.—A female splanchnoptotic, a multipara, front view of relaxed abdominal walls of umbilicus. Observe that the relaxed abdominal walls pass sufficiently distalward to conceal the genitals from view.

(n) Gestation plays an influential role in increasing splanchnoptosis, as when the fascial and muscular fibre of some abdominal walls are once well elongated and separated they do not return to normal.

(o) The second, third, fourth and fifth decades of life are the chief ges of suffering in splanchnoptosis.

(p) The symptoms which predominate in splanchnoptosis are from the side of the nervous system, as depression, melancholy, excitability, irritability and the stigmata of hysteria. The patients complain much of disturbed circulation, causing cardiac palpitation and vigorous aortic pul-

FIG. 9,—A lateral view of a female splanchnoptotic, a multipara, showing relaxed abdominal walls and umbilicus.

sation or rhythm. It is a beating tumor, and some physicians mistake it for aortic aneurism, because the aorta is so much uncovered by viscera, and only covered by the abdominal wall.

(q) Two characteristic groups of symptoms of the splanchnoptotic exist, viz.: On the one side neurasthenia and sick headache, and on the other indigestion, poor appetite and constipation.

(r) I cannot agree with Meinert in attempting to establish an etiologic relation between chloroisis and splanchnoptosis. I found no such relation in my series of observation.

(s) The large number of women who had not borne children, who have not laced tight, had no wasting disease, but having splanchnoptosis indicates a congenital predisposing factor.

(t) In splanchnoptosis there are two factors to study, viz., (a) congenital and predisposition, (b) exciting cause. The secondary or exciting causes are, any forces which tend to weaken the abdominal walls, as rapid child bearing, abdominal tumors, ascites, septic diseases, constipation, and wasting disease, such as the disappearance of fat in the abdominal wall and adjacent to the viscera.

Splanchnoptosis may exist without any known symptoms to the patient or to the physician, but the rule is that this may be accompanied by almost all kinds of gastro-intestinal disturbances. The chief symptoms of nephroptosis are (a) palpitation, (b) gastric disturbances, and (c) constipation. Though tight lacing and bands are accused of producing splanchnoptosis they are only a factor, as a predisposition in a weak abdominal wall so no doubt must exist.

Gastro-enteroptosis and nephroptosis almost always exist together. Nearly all splanchnoptotics are easily fatigued and show a neurotic existence. In women I observed that splanchnoptosis is commonly accompanied with backache, constipation, flatulence, varied local pains, all of which yield stubbornly to treatment.

Splanchnoptotics manifest vast disturbances in the circulatory system, as (a) palpitation, (b) vigorous beating in the abdominal aorta from partial uncovering of the viscera and thinning of the abdominal wall, also ganglion irritation, (c) compromising of vascular lumen, (d) headaches from irregular cerebral circulation, and (e) extensive abdominal venous statis.

In splanchnoptosis the individual abdominal organs may be distinctly palpated either through the thin linea alba, between the diastatic recti muscles, or through the thin flaccid abdominal walls.

A good test of relaxed abdominal wall is to stand behind the patient and encircle the distal abdomen with the two hands and force the abdomen proximalward, when it will give relief by its support. Also a partial test to elevate the abdomen and suddenly let it drop, when the degree of fall indicates the degree of relaxation.

The gynecologist must analyze with care the differential diagnosis between reflexes from nephroptosis and reflexes from genital disease.

Nephroptosis frequently produces identical symptoms with those arising from genital disease. One of the tests to differentiate between the two organs will be the application of a well-fitting abdominal supporter to replace and retain the mobile kidney. The sympathetic nervous system holds an intimately and finely poised relation among the three systems of

the abdominal viscera, viz., tractus genitalis, tractus urinarius, and tractus intestinalis. Disturbance of one system unbalances the others through reflexes.

Observe how nephroptosis from trauma of the plexus renalis produces reflex symptoms on the proximal end of the tractus intestinalis ending in nausea, pain, malassimilation, constipation and neurosis. Renal calculus induces vomiting, and sooner or later nephroptosis and gastric disease coexist. Genital disease gives rise to more gastric disturbances than the reverse, because the gastric secretions are deranged more easily than those of the genitals. Trauma or infection of the nerve periphery of any abdominal system of viscera soon deranges the motion and secretion of the other two abdominal systems. The connection between diseases of the uterus (genitals) and gastric (digestive tract) is profound and intimate. Disease of the uterus and stomach frequently coexist. A differential diagnosis between the symptoms arising from nephroptosis, from the genitals or stomach, is often difficult, as symptoms may be referable to any one of the viscera. This may be due, first, to the nerve tract, whose centre is not in the brain or the spinal cord, but in the sympathetic nervous system. From reflex action symptoms arise which relate to kidney or genitals. The reflex tracts being anastomosis ovarica, anastomosis pudendohemorrhoidalis, anastomosis genito-gastrica, anastomosis cutaneo-cavernosa, collater alis and the nervi splanchnici. Also the anastomosis utero-coelica and anastomosis utero-cerebro spinalis, also anastomosis reno-coelica. The immediate roads of the reflex are direct connections of the vagus (excluding the ganglion-abdominale) with the sympathetic nervous system. The second manner in which mistakes may occur are due to dislocation of the respective organs. The circulation only plays a minor role in this connection.

As splanchnoptosis is a general disease, local operations as nephropexy, uteropexy, will appear of limited value.

The tartaric acid and bicarbonate of soda method is a practical means to demonstrate gastro-duodenal dilatation. Inflation of the stomach by air is also a good method. The two operations I offer after five and six years of test are both general and local. The local is gastro-enterostomy which can be immediately followed by a general operation, i. e., the union of the two recti abdominales in a common sheath.

The non-surgical treatment for splanchnoptosis is through water drainage of the tractus intestinalis, tractus urinarius and tractus perspiratorius, with exercise and massage of the muscles.

Of the abdominal supporters I consider the best an ordinary elastic support, with a rubber air pad which can be placed inside the binder and distended with air. I have invented such a pad, and find it gives excellent results.

Glenard, Schwert, Virchow, Stiller, Meinart, Ewald, Landon, Boas, and Ameill have written excellently on splanchnoptosis.

HEMORRHAGE AFTER TONSILOTOMY.

By H. A. Leipziger, M. D.

BURLINGTON, IOWA.

DANGEROUS surgical operations may be divided into two classes: operations that are dangerous to the patient, and those that are dangerous to the surgeon. From a fairly extensive perusal of the literature on the subject coupled with my own experiences, I am led to believe that tonsilotomy is more dangerous to the surgeon than to the patient.

Although this paper, from its title, should deal only with hemorrhage after tonsilotomy, I am constrained to devote a few moments to some generalizations upon the responsibilities surgeons assume when they undertake so-called minor surgical operations, of which tonsilotomy is one. These remarks will appeal forcibly I am sure to all surgeons who have experienced what Paget has so classically described as the calamities of surgery. By the calamities of surgery he defines the results in minor surgical operations which terminate fatally, or leave the patient in a worse condition than existed before the operation was undertaken; they include fatalities from anesthetics; from minor operations, such as circumcision; the removal of small tumors of the face or scalp; ligature of a hemorrhoid; amputation of a finger; the tapping of an ovarian cyst; the tapping of a hydrocele; the division of a cervix uteri; the division of a fistula. From all of these he has known deaths to occur.

Like everything that Paget has written his essay on this subject is full of wisdom, and his conclusions, although perhaps trite and well known, will bear quoting again. He says: "All these calamities might be matters of no more than passing regret to us if they were altogether inevitable; if we could say that everything of this kind is purely accidental, a thing which no foresight could have averted, which came upon us out of circumstances over which we had no control whatever. But the truth must be fairly confessed; that these are not always accidents, and that often, when the calamity has occurred, and we look back on the events that preceded it we can find that the disaster was the result of some oversight, or of some carelessness, or want of judgment, or of skill. Do not let me seem to imply that there are no cases of this class which we may call purely accidental. Calamities in surgery may come of things which nothing far short of omniscience could have detected beforehand." Among the preventable steps he advises, "never decide upon an operation even of a trivial kind without first examining the patient with at least as much care as you would for a life insurance. Before a man's life is insured he undergoes an inspection of at least one medical man, and possibly of a whole board of directors. At least an equal amount of inspection ought to be made for every man who is to be submitted to an operation, and this involves a general fair consideration of what the man's present health is, how he looks, what is his pulse and his breathing, what he is in respect of temperance; what of exercise; whether he has ever had any serious ill-

ness; whether he is liable to minor illnesses; in short, in regard to what this examination should be, you may take for guidance the papers which insurance offices give to any one who proposes to insure his life."

Perhaps I owe an apology to this assemblage for presenting propositions which to many, and probably all of you are self-evident, well-recognized truths. But it may have occurred to some of you, as it has to me, that with the enormous advantages we have acquired in modern operative surgery today, over the methods in vogue in the days of Paget; that we occasionally forget or overlook some of these old and time-tried quoted above principles, which are a true guide today as they ever were. Although surgical dangers are greatly diminished by modern asepsis, antisepsis and hemostasis, calamities of surgery of the inevitable and the preventable types are bound to occur; if they occur after so-called minor operations we are particularly and forcibly reminded of their dangers to us as surgeons; the public is not able to distinguish between an inevitable and a preventable calamity; the laity is too prone to accept the assumption that all calamities after a minor operation were preventable; and when one has had a minor operation followed by death or disaster he looks in vain to all our glories of modern surgery for solace, and can turn for comfort and information to such essays as Paget's.

I include among the so-called minor surgical operations tonsilotomy and severe hemorrhage is one of its calamities. Most text-books of surgery speak of occasional fatal hemorrhage. I have thought from reading these works that death from hemorrhage was not so very uncommon. Naturally when I recently had my first case of apparently serious hemorrhage I was duly alarmed for the outcome of my patient and myself. A fatal hemorrhage after a laparotomy or a thigh amputation or post-partum. may be covered by that elastic and comfortable mantle called shock; but when a patient comes to your office in comparatively good health, has a tonsil removed and ultimately bleeds to death, which books says has occurred, no explanation or extenuation will easily be found to console the relatives or exonerate the surgeon.

Are there any fatal post-operative tonsilar hemorrhages? Or has one author copied the statement from another without any personal knowledge? I have looked through the Am. J. Med. Sc. from 1827 to 1902, and can find no death recorded, although several authors state that deaths have been reported, but do not say where or by whom. On the other hand, J. M. Warren in 1857 reports over 500 operations of excision of tonsils in none of which any fatal accident occurred, or which he had any reason to regret the operation. In but two cases, not in his own practice, had he seen any serious hemorrhage, and both of these cases did well. He had seen one case in which death was caused from enlargement of the tonsils in a young man, from suffocation; the trachea had been opened to prevent instant death when admitted to the hospital. S. E. Fuller, 1888, reports a case very similar to my own; a man of 25 years had his tonsils removed with a Mathieu's tonsilotome at 4 p. m. in the doctor's office, and with ordinary amount of bleeding; at 9:30 p. m., five and one-half hours after the operation, he complained of faintness and vomited blood, estimated by

his friends at from one-half pint to a quart. Shortly after he again vomited over a pint of dark blood. From 11 p. m. to 10 a. m. the next day continuous efforts were made to check the bleeding which was seen to be general oozing from the cut surface; everything in the way of styptics and pressure contrivances were tried throughout the night. Doctors after doctors were called in consultation—I can perfectly imagine Dr. Fuller's anxious search for colleagues who might be able to help him out—and at 11 a. m., fourteen hours after the bleeding had been discovered, the common carotid was tied. This did not stop the hemorrhage at all, and the bleeding continued until 2 p. m., twenty-two hours. The last remedy used before the bleeding ceased was a douche of very hot water. As this had been tried frequently during the night without success, the checking of the bleeding was not attributed to this remedy. The patient at this time was pulseless at the wrist, and transfusion of twelve ounces of saline solution was made into the radial vein. In a couple of days the patient was all right, although he showed signs of the effects of the hemorrhage at the end of a month.

Fuller quotes Sajous as saying that profuse hemorrhage occurs about once in 500 cases, while an alarming flow does not occur once in 1000 times, and accepts this proportion from the record of Cohen, Mackenzie and his own experience. He says quite a number of fatal hemorrhages are recorded, but does not give the number nor the authority. In answer to the question how to stop the bleeding he shows the inefficiency of the various styptics recommended; could not use continued pressure in his case on account of the retching and vomiting these occasioned, and cites De-Blois and Scheede as recording cases where the hemorrhage stopped when the patient fainted. In Fuller's opinion this was the way the bleeding was checked in his case. He concludes by advising in a similar case to use pressure and placing the patient upright to encourage fainting.

It would be waste of time to begin to enumerate the various methods recommended for the arrest of this hemorrhage. At a meeting of the French Surgical Society, in 1848, as many remedies were recommended by this and that surgeon as are in vogue today; the list running from such measures as simply keeping the mouth open to let the air stop the bleeding; to pressure from within and without. The inference from the discussion is that doing nothing will check the bleeding as well as all the other means. I have made use of a remedy in the following case which seemed to me to be effective, and is certainly worthy of trial in view of the apparent helplessness frequently occasioned by sense tonsilor hemorrhage when of the oozing variety.

Mrs. X., aged 25; good personal history; one brother tubercular; presented herself at my office at 3 p. m., February 17th, with the request to have her tonsils removed. I had operated upon them twelve years ago with a tonsilotome, and excised the usual sections. The tonsils now presented no evidence of former operation; they were both very much enlarged, the left a trifle the larger and from prolonged contact in the median line were flattened at these surfaces. The left one measured after removal two (2) inches in length, one and one-half inches in width and four inches in

circumference. The shape was somewhat like a mushroom with the broad portions in the median line; the right one was cut off with two sections of the tonsilotome being too large to cut off at one section and bled but very little; the left was pulled through the ring of the instrument with a little difficulty, and the section left a stump about three-fourth of an inch in diameter; the bleeding was more profuse than that of the left one, but seemed to subside upon pressure with a gauze tampon kept up for a few minutes; there were no distinct bleeding points visible, and no spurting; while lying down the bleeding appeared to cease, but when she sat up it began again in no alarming quantity; she insisted that she was not swallowing any blood, a mistaken belief, as shown later on by her vomiting blood which had trickled down the pharynx without her knowing it. I applied pressure with alum in solution and in crystal at various times as the bleeding recurred, and cold and heat, and at 5:30 p. m. she rode home with Dr. Milligan, who assisted me in the operation. At this time she still expectorated a little blood at short intervals, but not more than I had seen frequently in other cases; at 7 I was called to the patient's residence, as she was still bleeding, and found she had expectorated about eight ounces of dark blood which had coagulated. She had manifested some repugnance at the sight of the blood at the time of the operation, and when I saw her at 7 she was decidedly nervous about the continuance of the bleeding, and her pulse was 120. Various applications of styptics and pressure were now used, including adrenalin at the suggestion of a throat specialist, Dr. C. P. Frantz, but all to no avail, as the bleeding apparently continued to increase at periodical intervals, with apparent cessation of about one-half to one hour intervals. That these cessations were only apparent was shown by her vomiting at 10 p. m. about a pint of dark clotted blood, after an application of Monsell's solution. At this time her pulse was 140, and had lost a good deal of its strength and fullness and she showed the effects of hemorrhage or shock. It seemed the blood would clot upon and around the cut surface in the tonsilar pocket, but when the clot protruded it would start an irritation which made her hawk and spit it out followed by fresh bleeding; this as well as wiping off the clot would be followed by checking of the hemorrhage only to be resumed when the ever-recurring clot would again incite gagging and irritation.

At 10 p. m. I decided in order to eliminate whatever nervous element might be underlying the condition, to give a hypodermic of morphia and administered ¼ gr. with 1-50 of atropine. In twenty minutes she had gone to sleep, and it was a question whether the bleeding had stopped from the effects of the morphia, or from the use of an atomizer with alum solution. She slept until 2 a. m. and awakened bleeding again as before. She felt much better from the effects of her sleep, and as she did not vomit we supposed she had not bled during her sleep, accordingly I repeated the hypodermic, and she slept or rested quietly until 8 a. m. with slightly colored expectorations at long intervals; at 9:30, after taking some hot milk she vomited a small amount of blood and started to bleed again about the same as ever. She went to sleep again until 10:15 and then expectorated only mucous. Awakened occasionally to take liquid nourish-

ment and slept until 2 p. m. without any more bleeding since 9:30 a. m. She now proceeded to get along without any untoward symptoms; she was unable to avoid urine, due probably to the morphia, for twenty-four hours, and had some soreness at the site of the numerous styptic applications, the pain frequently extending into the left ear. After four days rest in bed and liquid nourishment she was up and about, showing the effects of the loss of blood. Drs. McKitterick and Sherman assisted me nobly during the severe strain of this night's experience.

I believe the irritation of the clot formed in the palatine pocket, and the nervous excitement, are largely responsible for the continuance of the bleeding, and that the morphine is responsible for its cessation more than anything else. In a similar case I should use it much earlier, or on this same theory might first try spraying with cocain, although we would perhaps not obtain the systemic quieting effect produced by morphine.

CONCLUSION.

1. I find in the journals many cases of alarming hemorrhage, but could not find reports of fatal cases; some were secondary; some continued off and on as long as nine days.

3. The operation is never justifiable without plainly presenting the possibilities of danger and letting the patient or parents assume the responsibility. The care in examining the patient prior to the operation should be as thorough as a life insurance examination.

4. The operation should never be done at the surgeon's office, but either at the home of the patient or at a well equipped hospital.

5. The usual compensation for the operation is ridiculously small compared to the responsibility assumed by the surgeon and the dangers arising from hemorrhage.

6. Fatal hemorrhage may be more frequent than reports give evidence of; if this is so surgeons should be urged to report their fatal cases for the better protection of colleagues who may meet this calamity.

7. Cessation of parenchymatous bleeding is effected probably by syncope favoring coagulation, or through vasomotor influence brought on by unconsciousness. If the latter is true removal of nervous excitement by hypodermics of morphine may prove to be the most desirable agent to check the hemorrhage. The use of various styptics seems ineffectual; their application is often injurious from the gagging and irritation produced, which in turn increase the bleeding and increase the nervous excitement; the best styptics, like iron are liable to injure the wounded tissues and discolor the teeth; styptics stop the bleeding when it amounts to nothing and would stop of itself, while the bleeding which continues and gives rise to alarm is stopped by syncope or unconsciousness, and I believe nature's efforts to check the bleeding in one or both of these ways is materially aided by morphine hypodermically.

8. Although I have failed to find any authentic reports of fatal hemorrhage in the literature at my disposal, and Bosworth says that he knows of no case reported in sufficient detail to warrant its being accepted as such, these conclusions must be modified if a report in the Wiener Klin-

ische Wochenschrift for February 27th, 1902, by Damionos is correct. This writer says that of 150 reported cases of serious bleeding seven were fatal. Three of the fatal cases were after operations by charlatans; two were children under 13 years, which is opposed to the general belief that severe bleeding after tonsilotomy never occurs in children.

DISCUSSION.

Dr. Norval H. Pearce (Chicago): I wish to congratulate Dr. Leipziger on his paper, which I have enjoyed more than any paper I have heard for some time. It is highly judicious in character, and I argee with him that the stilling of the nervous disturbance of the patient. is the most important factor in controlling hemorrhage. There is no means of operating that would insure us against such a hemorrhage; it occurs after the electric cautery, after the snare, cold or hot, after the use of the knife, after the guillotine, it occurs after any and all kinds of operating. It is the only thing to be feared in the operation. and I never cut into a tonsil without fearing hemorrhage, but, having had several unpleaseant experiences, I have never seen a fatal case. I have known of two; I have had alarming hemorrhages from a number of cases. Some of these have occurred in children, but the most of them have occurred in adults. I think the first thing to do, when you are called upon to see either an adult or a child, is to remove the clot from the tonsil. This seems to be a reversal of a general surgical dictum. In the throat, however, the clot becomes so voluminous as to act as a foreign body, causing retching and vomiting; it is thus detached from its base, and the hemorrhage is again set up. Just recently I have been called in consultation in a case where the tonsils were removed in a child of about twelve years, who refused all interference. The family were in a state of great excitement, and the operator was perhaps the most excited of all. I advised anesthetizing the child, and as the child was growing weaker, this was done and an immense clot was removed, so large that there must have been some difficulty in breathing. As soon as this clot was removed, the bleeding ceased. The child recovered from the anesthetic, but the bleeding did not recur. Therefore the first thing to do, in tonsilar hemorrhage, is to still the patient. This may requtre a general anesthetic, or it may require a narcotic. The next thing is to clear away tne field of hemorrhage. Of styptics, I believe ferripyrin to be the best. If these or the cautery fail, I put on the Mickulatz's compressorium, an instrument with which you are probably acquainted, with two prongs, which enables you to bring as much pressure to bear as the patient will endure. This, in connection with morphin, has stood me in good stead in a woman who was exceedingly nervous. The morphin was carried up to the point where she lost consciousness, and she held the compressorium in the mouth over night and until the next morning.

Dr. B. H. Criley (Dallas Center, Iowa): I just wish to say one word about this hemorrhage. A few years ago I removed a tonsil and there followed a hemorrhage which was alarming. I tried very few things, but I made use of a Paquelin thermo-cautery, and stopped it almost instantly.

Dr. W. L. Ballenger (Chicago): In regard to the checking of tonsil hemorrhage, I have only to say one or two words. The more I operate upon tonsils, and I have operated in recent years upon many, the less I recommend the use of the ordinary methods, as styptics, pressure, etc. I have found that in these cases it is better to treat them as a surgeon wonld treat hemorrhage in any other part of the body. If serious enough to require interference at all, I use a large artery forceps which can be easily introduced through the mouth, and if it is a spurting hemorrhage I get hold of the bleeding point and seize it, and thus check it. With the pressure thus brought to bear upon the tonsil, the hemorrhage does not recur, as a rule. If the hemorrhage is of an oozing character, I have, in one instance, introduced as many as four artery forceps into the mouth at one time, and have thus succeeded in compressing the entire cut surface of the tonsil, with the result of checking the hemorrhage. I cannot see why we should not use artery forceps for tonsilar hemorrhages. Why should we continue to use styptic, when we can stop the hemorrhage by simpler and surer means? I used in one case last week, a short-handled artery forceps in this way. I simply wish to recommend this method. I have found it advantageous in my practice, and there are no special objections made to it by patients, except the instruments are a little awkward in the mouth. I had a case that was operated on by the cold snare, or so-called bloodless method of operating. Dr. Pearce has well said that there is no bloodless way of operating bloodlessly upon the tonsils. The cold snare method is said to be. This patient in nine hours bled four pints. I did not see him until the hemorrhage had ceased. Even the fainting away of this patient did not stop the hemorrhage, although the arterial blood pressure must have been much reduced. The hemorrhage was stopped by the physician in attendance, who made use of a pair of long uterine dressing forceps that he chanced to have in his bag. He used these as he would have nsed an artery forceps clamping the stump of the tonsil and the hemorrhage soon ceased. This, I think, points to the fact that it is the best and quickest method of stopping hemorrhage after tonsilotomy.

Dr. C. H. Andersen (Chicago): I was very much pleased to hear Dr. Leipziger's paper; but I was very much surprised to hear that after they had cut down on the common carotid they were not able to control hemorrhage. In the first place they never tied the common carotid, but it is probable that they tied the external jugular vein. There was no necessity of tying the common carotid as all the blood comes from branches of the external carotid and has nothing to do with the internal carotid.

It seems to me that a surgeon should always be called in, under such conditions, and I don't see any reason why such a patient should bleed to death if there was a surgeon present, and it seems to me that any man could by mere dissection, cut down on the common carotid.

I compliment the doctor on his paper, except that one thing, as it is a timely paper, and it is the minor things that many of us do not look after and such cases sometimes end fatally.

Dr. Campbell (Chicago): The essayist in speaking of morphin as a therapeutic agent in the control of hemorrhage did not mention its physi-

ological effect in doing so. The only effect produced from the small doses administered in the control of hemorrhage would be indirect, that of merely quieting the patient. Small doses of morphin causes a rise in blood pressure, and would tend to favor hemorrhage, when, however, from the administration of large doses the full physiological effect is obtained, we then have a marked lowering of blood pressure. So that to merely quiet the patient we might use the bromides more advantageously.

Dr. ————————: The writer emphasizes the thoroughness with which we should go into the history of cases that come to us for minor operations. This has been emphasized in more cases than one. In going over case histories we can recall where eminent men with whom we have had to do, have operated for minor operations and have had troublesome hemorrhages follow. As far as my operations on tonsils is concerned, the principal lesson I have had to learn is the lesson of "Don't." The next has been to get a history of the case and the tendency of the individual, if possible. I recall one case which illustrates the fatality that is possible to follow where such history is not obtained. It occurred in this city before a class of students, of which I was one. A lady was brought in who desired her tonsils removed. She was thin, but not anemic, although of light complexion, about fifty years of age. She was examined by the surgeon who took no particular history of the case, and he did not know her as she had come into the clinic for the first time that afternoon. After necessary preparations were made, the tonsils were removed and the patient retired from the room. The next afternoon the same surgeon came before the class with a haggard, worried expression, and said he would tell us of the terrible ordeal through which he had passed in trying to save that woman's life. Everything had been done that could be done, but she had literally bled to death. They found when they were called to the bedside of the patient, that she had a history of bleeding; the slightest operation, even a cut of the finger, would case profuse hemorrhage. This fact could easily have been brought out by questioning the patient before the operation and the doctor felt that he had neglected a very important step in not finding this fact out.

Dr. H. A. Leipziger: I wish to express my appreciation of the reception with which my paper has met, and the consideration it has received at the hands of the gentlemen who have discussed it. It is, in point of fact, merely a little experience confession of what has constituted a long series of failures, and has been a little groping for something that would help us out in a difficulty that we are all liable to get into.

The remarks made by Dr. Pearce were particularly instructive to me, on account of the position that I took that narcotics or anodynes would help to stop the bleeding. Perhaps the giving of the general anesthetic in his case acted similarly to the morphine in my case in arresting the bleeding. Removal of the clot must be of advantage; in the case that I described, when the woman removed the clot by hawking, the bleeding would stop for a short time.

That we should stop hemorrhage from the throat after the removal of tonsils the same as we do in all other surgical bleeding, is true, and in his

graphic description of Fuller's case he thought the best thing would be to put a clamp down in the throat, but the patient would not allow the clamp to be adjusted. When we have a constant and persistent hemorrhage from the throat after tonsilotomy, the patient and everybody in the vicinity of that patient is apt to become nervous. A clamp put in the throat of the patient makes him vomit, and I have read of cases where patients have stated that they would rather bleed to death than have the clamps inserted with the distressing vomiting which followed and caused inability to keep the clamps in place. As far as Fuller's description of tying the common carotid is concerned, it did not stop the bleeding. That was explained, or at least, mention was made of the remarkable of the fact that hemorrhage continued. As Dr. Campbell suggests, a small dose of morphin increases arterial pressure. What is a small dose in a normal person, would, I believe, be a large dose in a person weakened by constant hemorrhage, and I believe that explains why a normal dose of morphin might diminish arterial pressure in a patient weakened by hemorrhage, and thereby aid in stopping bleeding.

If I have called attention to the fact that most prescribed remedies for tonsilar hemorrhage are ineffective; that we should be very circumspect in operating on tonsils and caution our patients; and that anodynes, such as morphin hypodermics are worthy of trial, the object of the paper has been accomplished.

THE HYGIENE OF PREGNANCY.

By Charles E. Paddock, M. D.

CHICAGO.

IN selecting this subject, I do so understanding that it is not new, nor are there any new ideas advanced. I do so, however, with a knowledge that the hygiene of pregnancy is being neglected. Because of this fact, I hope that the subject may be brought before you in a way that may stimulate you to better work in midwifery. I maintain that it is the younger men who are doing the good, careful work in obstetrics; that the older practitioner neglects details that are all-important to the welfare of the patient. The young man is fresh from his school, full of good ideas regarding the subject, is familiar with the teachings of his professors and his text-books. He is able to do good work until his other duties become so hard that he finally looks upon the obstetrical practice as a side issue, loses all interest in it, and takes it for the remuneration which it brings.

There is no branch of medicine so thoroughly neglected as that of obstetrics. Why is it that the general practitioner gives so little time to it? Why is it that this subject is so little thought of that midwives who can not speak a word of English, can hardly speak their own language, and, worse than all, who know nothing of asepsis and antisepsis, are allowed to practise? What does the State Board of Health mean by licensing these

women for practice in any branch of medicine, and especially the obstetrical one? Would we, as physicians, countenance the giving of diplomas to such to practice any other branch of medicine? And, while you may ask what this has to do with the subject of hygiene of pregnancy, my answer would be, everything, because these women as a rule know scarcely anything about the treatment of cases during pregnancy. They go out into the world practising their vocation, unfitting the women, and leaving them in a deplorable state. Just so long as we look upon obstetrics so lightly, just so long will women have to suffer from neglect.

Notwithstanding all this, I believe that we are advancing in the art of midwifery, and I believe that it is due to the condition of specialism. Obstetrical cases are now referred to the obstetricians, who are giving their best energies to the advancement of this subject. It is not these men, nor those of you who do good, conscientious work, that I am addressing, but the busy practitioner who has no time for obstetrical work, but at the same time takes every case, never seeing a case during pregnancy, hurries the labor with instruments, and pays no attention to the puerperium. To such I appeal, not only in the interest of the mother, but in that of the child. That many children are brought into the world poorly nourished, and finally succumb, is due entirely to the careless way of handling the case in pregnancy. We have clinical evidence which warrants us in making this statement.

Pregnancy was normally intended to be a physiological process, but custom has changed this, and we rarely see a case that does not require the physician's attention. The nervous system shows unmistakable changes. There is a disposition to melancholia, and the digestive system is more or less disturbed. These conditions are occurring at a time when it is all-important that the woman be in as healthy a state as possible. Knowing these things to be so, we are guilty of culpable negligence if we neglect them. Unfortunately, in the class of cases where treatment would have done the greatest good, we do not see the patients until they have gone into labor. In the better class of cases the physician is engaged early, but in the country and in the poorer city districts the reverse is the rule. That the city patients require more attention, and are not so fit for maternity, is evident when we consider their surroundings. In the country the women are more active, they breathe purer air, eat plainer food, and drink purer water, and their habits are more regular. At night they breathe the same pure air, and their rest is not broken by the continual noises which make either the night or the day in the city wearing upon the strongest constitution. The city woman breathes the same foul air night and morning, drinks impure water, and has as a rule irregular habits, and most girls, of whatever class of society, are physical wrecks by the time they have reached the pregnant state. These are the women we must help.

In presenting this subject to post-graduate students, I am often met with the statement, "there is not enough remuneration in an obstetrical case." I maintain that if the case is worth taking at all, it is worth treating well, and the physician will find his remuneration in the consciouness of work well done and the plaudits of his patients and friends.

The hygiene of pregnancy begins as early as you see the case. Make a thorough examination and determine whether or not the woman is in a healthy condition and is able to give birth at term to a living child. It is a sad reflection upon a physician who has been engaged since the first few months of pregnancy to find at labor that the patient cannot, owing to tumors or some pathological condition which might have been corrected, give birth *via naturale* to a living child, or that the mother has some disease which pregnancy has increased. When you have determined that the woman is in a fit condition, then give specific rules which she must live up to. Circumstances are, of course, to be taken into consideration. The kind and amount of exercise, strict attention to the excretory organs, regular habits of diet, attention to the breasts are among the numerous things to which a physician's attention must be directed in his case during pregnancy. I do not intend to go into details or to enumerate all that should be done for the patient, but to mention two important factors in the hygiene which seem to be so often neglected and are so absolutely indicated. I refer to the bathing of the patient and the examination of the urine.

It is a popular belief that too much bathing is positively injurious, and it is our duty to correct this error. A daily full bath should be advise; not necessarily a hot one, but tepid or agreeable to the patient. This is a prophylactic treatment of nephritis and is all-important. Next comes the examination of the urine. Frequent examination, say every two weeks, and the last month every week, and an occasional twenty-four hours' specimen, is positively indicated, and strict adherence to this rule has save many a woman from eclamptic seizures. Physicians doing much obstetrical work, and carrying out this routine treatment, often encounter patients with acute nephritis whom, by prompt treatment, they are enabled to carry through safely to full term.

Select the lightest and most pleasant room, which has been thoroughly cleaned and aired, for the confinement and puerperium. Aside from the sanitary point of view, there is nothing which adds so much to the comfort of the patient as a light room with pleasant surroundings.

When the patient arrives at the time of labor, the physician's duty is to take every care against the infection of the mother. When Semmelweis, in 1848, made known to the world his studies of puerperium infection, he opened up a new field in midwifery which has been the means of saving thousands and thousands of lives. The usual mode of infection is through the vaginal tract, by contact of the fingers of the accoucheur. The late Professor Jaggard, in his lectures upon the prophylactic treatment of puerperal infection, said: "Limit to the minimum the number of digital examinations." That advice is as good today as it was ten years ago. In a normal case, one examination *per vaginam* is sufficient, and that should be made under strict asepsis. All other examinations can and should be made externally, and by practice a skill will be acquired which will enable one to determine the position and presentation without running the risk of infection by repeated vaginal examinations. The labor being over, all lacerations of the vagina and perineum should be repaired. Physicians

who do not, do not look for them, because they are present in a proportion of the cases of every physician. My attention has recently been called to a number of cases of confinement where little if any attention was given to the puerperal woman. How a physician can conduct a case of this kind through labor, and then forget that he has such a patient, is more than I can tell. So many little things come up daily, following a labor, that a physician's duty is to give the same strict attention to the case following as he did before. Catheterism is often necessary, and unless there is a skilled nurse present, the physician must attend to this himself. The diet should be attended to and regulated—absolute rules given as to what the mother should eat and also rules regarding the nursing of the baby. Absolute quiet is indicated the mother being kept from her well-meaning but misguided friends.

A prominent text-book advises that a patient be kept upon her back for a week. Why the author considers this necessary, is more than I can say. I believe the patient should be kept as quiet as possible, but after the first twelve or twenty-four hours to lie constantly upon the back becomes so irksome that I advise her being turned by the nurse from one side to the other. The same author advises that the patient be confined to bed for at least fourteen days, then shifted from the bed to a lounge, and at the end of three weeks be allowed to take a few steps, and at the end of four weeks allowed to leave her room. Such arbitrary rules are unnecessary, and cannot be made to fit every case. There are patients who may be able to be about in a week, while another patient will not be in the same condition for three or four weeks, and my rule is to depend upon the amount of involution that has taken place, and I guage that involution by the character of the lochia. The lochia rubra may be present four, five to seven days, sometimes longer, depending, of course, upon the amount of involution of the uterus. If the uterus has contracted and the whole involution has rapidly taken place, the lochia cease, and then I allow my patient to be about. Great care should be taken before discharging our patient to make an examination *per vaginam* to determine the exact position of the uterus, to determine whether there is a marked retroversion or a retroflexion. But our duty to our patient does not cease here. Even after the third or fourth week we are often called, the patient complaining of a great deal of backache, of feeling of weight in the pelvis, and an examination will determine that the uterus has finally been misplaced. Therefore I would advise that two examinations be made—one at the time the patient gets up and another at the end of about six weeks.

There are numerous details which might be enumerated in the treatment of the puerperium, but these are found in the text-books, and it is my desire to only call your attention to the fact that these cases should be given more attention than it is the custom of the general practitioner to allot to his cases. The physician who does all this, who looks to the welfare of his patient during pregnancy, and gives the same watchful attention following labor, will have the lowest mortality and the fewest conditions of morbidity.

DISCUSSION.

Dr. Campbell (Chicago): I feel as though this excellent paper merits discussion. The advice given in a most thorough manner, indeed by Dr. Paddock, is certainly a benefit to every one who practices obstetrics. I am certainly of the opinion that the average physician pays too little attention to the pregnant woman before and after confinement. It is a lamentable fact that fibroid tumors and other pathological conditions are found only when the woman is ready to be confined, and these conditions very often cost her her life; when had they discovered earlier, she could have been saved. The aseptic technique as generally practiced is faulty, infection would be more common were it not for the hemorrhage that occurs at the time of labor which washes many a poisonous germ from the fingers of the physician, thereby preventing infection. A pernicious practice of oft-repeated examinations and as well the retention of the examining finger in the vagina during the second stage of labor is capable of serious consequences.

Dr. C. H. Andersen (Chicago): It sounds very nice, and no doubt it is possible for Dr. Paddock and Dr. Campbell to examine a woman once and be able to tell all about position and presentation. Experience may teach them to tell what is going on by making one examination, but the young and inexperienced man makes numerous examinations before he can tell just how things are. It is the way he gets experience. I examine a woman twenty to thirty times, and all young men do. It is not possible for them to get any experience in the schools where they graduate. Before graduation, many of them never make an examination of a pregnant woman, and how are they going to tell what the position is? I sit by the side of a woman and keep making examinations with my hand to see if everything is going all right. Of course, if I had the X-ray eyes of Dr. Paddock and Dr. Campbell, I would make no examination, as I could see right into the pregnant uterus.

Dr. C. E. Paddock: I have nothing in particular to add to the paper. It is simply advice to practitioners who are doing obstetrical work, and is not for such men as Dr. Andersen who know nothing about obstetrics. There are, of course, cases where more than one internal examination is necessary, but it is the exception, and there are exceptions to all rules. I reaffirm that a physician may gain more by external examinations than by internal.

SMALL-POX; ITS DIFFERENTIAL DIAGNOSIS.

By J. C. Sullivan, M. D.,

CAIRO, ILL.,

Member State Board of Health of Illinois.

So much having been written for and against the late epidemics of small-pox that the busy practitioner in trying to choose the correct view is but doubly confounded, and none more so than the surgeons and nurses of the civil war.

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They having had the experience of seeing almost a peck of scabs removed every morning from the sheets of the convalescent soldiers; whereas now in the exceedingly mild cases there are but few furfuraceous desquamating patches on the skin to be seen instead. Lengthy desertations on the signs is, symptoms, etiology and pathology of the disease are seldom read and more readily forgotten.

Hence, in order to make this paper as brief and practicable as possible I have intentionally refrained from making any mention of either, as I am confident from the amount of literature published on the subject that you are each thoroughly familiar with it. All I wish is simply to impress on you that whenever you have a patient complaining of a severe and persistent backache followed by fever and a pustular eruption, affecting the palms of the hands and the soles of the feet protruding from beneath the true skin or corium, you have a case of small-pox with which to deal, and no matter how insignificant or mild it may appear a case of confluent or even hemorrhagic small-pox may be contracted from it.

Hence the necessity of immediate vaccination of all parties exposed and of strict quarantine or isolation in each case.

There are but two diseases that produce this phenomenon, namely, syphilis and small-pox. The former need never be confounded with the latter, as a history of chancre would differentiate immediately. From measles it may be differentiated in Koplik's sign which when found consists in the appearance of little white pearly bodies on the inside of each cheek before the faucial redness of early measles. The typical lobster rash, strawberry tongue and persistent white line of that most eccentric of all diseases. proclaims scarlet fever. The multiform punctated and never cresentic rash that of Rothlen. The successive crops of vesicles affecting the shoulder blades principally, chicken-pox. The pustule place or stuck on the surface of the skin, impertigo. Lichen planus and papular eczema may at first be confounded with small-pox, but the pustular eruption from beneath true skin of the palms of the hands and soles of the feet make the diagnosis positive of small-pox, while remembering that there is no such disease as Cuban or Porta Rican itch.

Adherents of the theory of a third or intermediate disease similar to Rothlen, with measles and scarlet fever have strenously fought the idea that modified small-pox could be true disease in any meaning of that term, still repeated examinations and diagnosis of the most eminent specialists have as often found and named it small-pox.

Many, however, admit its contagiousness, but fail to quarantine, here they err, for when a disease, no matter what its name or nature, that is contagious, and before it becomes en or epidemic, it is the duty of every physician to report it to the health authorities and work in concert with them to see that it is rigidly quarantined until all danger of its communication to others shall have passed.

DIAGNOSIS OF CANCER OF THE BREAST.

By Alfred Roulet, B. S., M. D.,
ST. LOUIS.

THERE is no condition in which an early diagnosis is of greater importance than in cancer, and in no other condition is the failure to make a correct diagnosis attended by more deplorable results. There can be no doubt that in its earliest stages every cancer is a strictly localized condition, and that successful treatment depends entirely upon early diagnosis and immediate radical extirpation of the malignant focus.

An early diagnosis of cancer of the breast requires not only a thorough physical examination, together with a careful study of the best clinical history of the case that it is possible to obtain, but a most searching analysis of everything that could in any way have the slightest bearing on the subject. The microscope should have no place in the pre-operative diagnosis of cancer, though it is often of great value in confirming a diagnosis after the tumor has been removed.

Regarding the etiology of cancer but little is known, but the parasite theory being as yet unproven, and assuming that the theory that all new growths develop from a pre-existing focus of embryonal tissue is correct, we can only consider the influences which clinical experience and observation would suggest are concerned in the awakening of this dormant focus into activity. From our present knowledge the absence of this focus would preclude the formation of a tumor, no matter what influences were at work, while in the absence of a proper stimulus a carcinomatous focus might easily remain quiescent during life of the patient.

Age is a factor of considerable importance, cancer being most prevalent among persons past middle life. In women it occurs most frequently between the ages of 40 and 50 immediately preceding the menopause. It occurs next in order of frequency between the ages of 50 and 60, the decade between 30 and 40 comes next, and is followed by the decade between 60 and 70. Cases before the age of 30 are exceedingly rare. It is not altogether improbable that although cancer of the breast commonly appears during the period of functional decline of that organ, the frequently recurring hyperemia of the breast incident to menstruation, pregnancy and lactation, may be a predisposing factor in its development. The fact that cancer occurs three times more frequently in the breasts of women who have borne children than in those who are sterile, and the extreme rarity with which it occurs in the rudimentary mammary gland of the male would apparently substantiate this supposition.

Traumatism has long been considered a frequent cause of cancer, and it is possible that fissures of the nipple, chronic inflammations and long continued irritations, as the pressure of an ill-fitting corset, may exercise a contributory influence, either by directly stimulating the development of a cancerous focus, or by reducing the physiological resistance of the adjacent tissues. In a series of 114 cases collected by Winiwarter, 24 had had mastitis, and in a series of 170 cases collected by the same writer, 12 gave a history of previous injury.

The etiological relation between Paget's disease (eczema of the nipple and areola) and carcinoma has long been recognized. In a paper on the relation of this disease and cancer of the breast, read by Paget in 1874, he said: "It has happened that in every case which I have been able to watch, cancer of the mammary gland has followed within at most two years, and generally within one year."

Regarding the role of heredity in the transmission of cancer, the evidence while suggestive is not conclusive. In a series of 1164 cases collected by Gross, in but 55 was there a history indicating hereditary influence. Senn reports that he has repeatedly met with cancer of the breast in two succeeding generations; Sibley relates a case of cancer in a woman and in five of her daughters; Broca has reported a case, quoted by Billroth, of cancer occurring in a woman, in four of her daughters, and in five of her grand children. I recall a case in my own practice of a woman with a cancer of the breast, whose father had died of a cancer of the stomach and whose grandmother had died of a "running sore in the breast." Paget has reported 322 cases in which a history of cancer was obtained in 78. In the investigation of heredity as a possible factor, it is not enough to ascertain the existence or non-existence of malignant disease in the patient's parents and immediate family circle, but the investigation should include, to the most remote degree, all blood relations about whom it is possible to obtain anything like reliable information.

Shattuck has called attention to the fact that cancer may show itself repeatedly in certain houses, and reports four cases occurring in persons who were not related, but were living in the same house. Several similar instances are on record. Dr. Daniel Lewis, of New York, in a recent special investiagtion of the town of Brookfield, N. Y., found a large number of "cancer-houses," so-called from their having had two or more cases of cancer develop in them, while Plainfield township, near by, a cancer center was discovered where nearly all the houses within a radius of a quarter of a mile have had from one to five cases each.

Ordinarily the first symptom noticed by the patient is a hard indurated mass or nodule in the breast, situated, as a rule, in the upper outer quadrant, or immediately below the nipple. Usually this nodule is discovered by accident, as there has been no previous pain or discomfort, and no constitutional disturbances. Occasionally the appearance of the tumor is preceded by sharp, stabbing pains, but it is more than probable that there is not the slightest connection between the development of a cancer and this pain, as many women between the ages of 35 and 45 suffer with neuralgia of the breast, especially at or near the menstrual period The development of a cancer is not necessarily attended with any particular pain, though many patients do complain of sharp, lancinating pains occurring at varying intervals and lasting but a few moments, but these pains are by no means a constant symptom, and their presence or absence is of slight diagnostic value.

The idea that cancer is attended with the most agonizing pain is unfortunately deeply rooted in the minds of the laity, and it is often difficult to convince them that a cancer may occur without causing any appreciable suffering.

The tumor is never distinctly movable, as are the benign growths, neither can its outlines be clearly distinguished on account of the infiltration of the surrounding tissues. The nipple is frequently retracted, while immediately over the tumor the skin may be more or less pitted. As the tumor increases in size the overlying skin becomes reddened and infiltrated and breaks down forming an ulcer which progressively increases in size and manifests not the slightest tendency toward healing. The cancer not only involves the skin, but it extends backward into the retro-mammary connective tissue, the pectoral fascia, the pectoral muscles, and it may even penetrate the chest wall and involve the pleura. As the disease progresses, the axillary glands become enlarged and matted together, making a firm nodular mass which completely fills the axilla Often there may be noted a fullness in the supra-clavicular region on the diseased side which is not present on the other. This means that the axillary infection has extended beneath the clavicle and that from this point it may follow the chain of lymph nodes accompanying the internal mammary artery, or it may involve the bronchial glands at the root of the lungs. According to Volkmann, when the tumor is situated near the median line the axillary lymphatics of both sides may be affected Occasionally the axillary enlargement becomes so excessive as to seriously interfere with the venous circulation of the arm and edema and gangrene may result.

In advanced cases of cancer of the breast, a positive diagnosis is made with comparative ease, but in the early stages it is much more difficult and is only made by a rigid process of exclusion. In all cases abscess, syphilis, tuberculosis, actinomycosis, sarcoma, and the benign tumors must be absolutely excluded before a positive diagnosis of cancer is made.

A knowledge of the relative frequency with which certain growths appear, the time of life most favorable for their development, the age of the patient, together with the size, the degree of mobility, the rate of growth of the tumor and the extent of lymphatic involvement are valuable guides in making a correct diagnosis. For example, a soft, rapidly growing tumor in the breast of a woman of 20 would probably be either an abscess or a sarcoma, but scarcely a carcinoma, while the development of a dense nodular tumor in the breast of a woman of 50 would be regarded with grave suspicion, especially if it increased rapidly in size, was immovable in the gland substance, was adherent to the skin, ulcerated, and the axillary lymphatics became enlarged and matted together.

While it is desirable to know the exact time at which a tumor appeared, it is often impossible to ascertain this point with any degree of certainty. Unless the tumor is causing the patient actual discomfort the discovery ordinarily will be entirely accidental. Nevertheless, after making allowance for the inaccuracies of the patient's statements, it is often possible to derive information that will be of value in estimating the rapidity of the growth. For example, by comparing the size of the tumor when it was discovered by the patient with its size when first seen by the physician, it is possible, by considering the length of time that has elapsed, to form an approximately correct idea of the rapidity of its growth.

A careful examination of the lymphatics should be made in all cases where cancer is suspected. The presence of large matted lymphatics in the axilla on the diseased side should suggest cancer or infection, but the apparent absence of lymphatic involvement alone would not justify the conclusion that the tumor was of a non-malignant nature. It is sometimes impossible, as in corpulent women, to detect nodes as large even as a pigeon's egg. When the lymphatics generally, but particularly those in the epitrochlear and postauricular regions are enlarged and indurated, syphilis should be suspected and the tumor subjected to the closest scrutiny to exclude the possibility of a gumma. Syphilitic lesions are often multiple and show a tendency to heal under vigorous antisyphilitic treatment. A carcinomatous ulcer is almost invariably an isolated affection and never heals, though it may remain stationary for a comparatively long time. Tuberculosis of the breast is rarely seen, but when it does occur it is commonly secondary to tuberculosis of some other part of the body. The nodules may be disseminated throughout the gland, or they may be collected in one or more comparatively large masses. The history of the case is of the greatest value in making the diagnosis.

A subacute abscess often bears a close resemblance in signs and symptoms to a malignant growth. When tenderness is present it is a diagnostic point of minor importancce. Tenderness is usually present in abscess, and is usually absent in cancer. The most important point in the differentiation is the case history. A short time ago, through the courtesy of Dr. A. C. Bernays, I saw a patient who had been sent to St. Louis for an operation for cancer of the breast. The entire upper and outer portion of the gland was occupied by a hard nodular mass, with irregular, vague pefined outlines. The skin was pitted and the nipple retracted. The axilla was filled with a dense hard mass. Fluctuation could not be obtained at any point. The clinical picture of cancer could not have been clearer. However, the investigation of the case history brought out the fact that five months before she had had what she supposed was a felon on the middle finger of the right hand which had not been opened, but had been treated with poultices. After a few days the swelling went down and a small hard circumscribed tumor appeared on the back of her hand at the junction of the middle and ring fingers. The formation of this tumor was not attended with pain, neither was it tender on pressure. A few weeks later she noticed an enlargement in the axilla which, while not painful, interfered materially with the use of her arm. Shortly after this she had discovered a lump in the upper outer quadrant of the breast which had rapidly increased in size until she came to St. Louis. On examination numerous enlarged lymph nodes were found along the forearm and about the elbow. Dr. Bernays' diagnosis was abscess secondary to infection of finger. In the operating-room this diagnosis was shown to be correct. The axillary lymphatics had broken down forming an abscess which had burrowed along under the fascia, dissecting up the pectoral muscles, invading the retro-mammary connective tissue, and extending into the gland itself.

Sarcoma of the breast closely resembles in appearance the soft or medullary cancer. It appears most frequently immediately below the nip-

ple or in the upper inner quadrant. It occurs more frequently in the young and middle aged than in the old. As a rule it grows more rapidly than a carcinoma, and during its development may remain comparatively movable and free from attachments. The tumor is smooth, the nipple is not retracted, and the lymphatics are rarely affected. A sarcoma attains a much greater size before ulceration occurs than is usual with carcinoma. As the tumor increases in size the subcutaneous veins may become immensely dilated from interference with the circulation. The development of a sarcoma is seldom painful, and the general health is not affected until ulceration and metastases occur. Great difficulty is often experienced in differentiating chronic suppurative mastitis, retro-mammary abscess and sarcoma.

Of the benign tumors of the breast, probably adenoma is the most frequent. It is of slow growth and ordinarily does not become very large, usually ranging in size from a hazel nut to a hen's egg. It occurs in the periphery rather than in the central portion of the gland and is superficial rather than deep-seated. Both breasts are rarely involved, but several tumors may develop in the same breast. An adenoma is distinguished from a carcinoma by its slow growth, mobility and absence of lymphatics involvement and ulceration. It occurs most frequently in the young, rarely after middle age, and has no effect on the general health.

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DISCUSSION.

Dr. A. J. Ochsner (Chicago): I was very much pleased with this paper, because it refers to the important practical clinical part in the treatment of cancer of the breast. If a clinical diagnosis is made reasonably early, it seems to me that carcinoma of the breast is one of the very hopeful conditions—a condition in which we can expect radical relief in a large proportion of cases. Of course, there is the element of which Dr. Roulet spoke. The fact that many of these patients never suspect the presence of a carcinoma until they notice it by accident. The breast is struck, or they accidentally feel of the breast, and then they notice this growth. If physicians generally were impressed with the importance of making an early diagnosis, it is likely that their patients would be impressed with the importance of this fact; because such matters travel. As physicians appreciate the importance of such a matter, the community begins to appreciate its importance, and as soon as the community appreciates the importance of a little nodule in the breast, the physician will be consulted as soon as a person finds it. Papers like the one we have heard will indicate the importance of at once considering the presence of a carcinoma. Suppose this tumor is not a carcinoma, the only harmless thing it could be is a fibroma, and a fibroma pure and simple, practically never exists; so it is a fibro-adenoma which means that it will presently be a carcinoma. Should we not remove a fibro-adenoma rather than theorize about the growth? Of what importance is the small amount of tissue that must be lost, to the patient, compared with the danger the patient runs through letting it remain?

While I am speaking about this, I wish to speak about another matter which has occurred again and again with every one who has had any experience with carcinoma of the breast A patient has noticed a nodule in the breast; she has said nothing to any one, has paid no attention to it. She tells some one about this and is advised to consult a physician. The physician sends her away and meditates about it. While he is meditating, the patient has been advised to massage the breast. She goes to the practitioner and he massages it. She consults another practitioner and he performs the same miracle, and presently her carcinoma has been massaged for a variable period of time, and when that patient comes to you after she has had all this massage treatment, the tumor is very much larger than when you first saw it, and not only larger, but the lymphatics are involved. Those carcinoma cells have been massaged out of the original nodule and into other portions of the lymph channels, and they may possibly form a secondary carcinoma of the liver. There is no doubt that the idea that Professor Futterer of this city brought out in his monograph on carcinoma, is correct. He states that there is a dislodgement of carcinoma cells which wander to different parts of the body, and most of them die off; but of the large number of fragments that are dislodged and transplanted, a few live and grow; and I believe that the number of transplantations is enormously increased by this system of massage. Consequently, I would say, never manipulate a tumor of the breast—never manipulate a malignant growth of any kind, unnecessarliy.

All who have operated on carcinoma of the breast have noticed that occasionally the patient returns with nodular recurrence, and upon examination it is found that the recurrent nodules are localized wherever the stitch penetrated the skin. Why is this? Simply because the needle carried a few carcinoma cells to that spot and made a graft at that point. The same thing happens if you remove portions for microscopical purposes. I believe that making sections from the breast for the microscopic demonstrations of a malignant growth, is a form of malpractic. I was glad to hear Dr. Roulet say that he wished to speak particularly of the clinical part of this subject. If a physician is not sufficiently skilled to recognize a carcinoma of the breast when he sees it without cutting out a piece, he should consult some one who does know enough to do this. Unfortunately, those who do know enough to do this, have been taught that it is unscientific to operate these cases without having confirmed the diagnosis by a microscopic examination, and because some person in Germany has stated that it should be done, they continue to do it. But any surgeon who has observed the progress of these cases must see that it is bad practice to remove a section where the transplantation of fragments can do so much harm.

Dr. H. Hatch (Quincy, Ill.): I was very glad to hear this paper, and also to hear what Dr. Ochsner said about massaging the breast. In connection with that, I think there is another thing that we should impress upon our patients, and that is, that when a nodule is discovered in the breast, they should not talk it over with others. I have pursued this course for a number of years. When a patient comes to me with a suspic-

ous nodule that I fear will develop into a malignant growth, where the patient will not allow it to be removed, I tell them to tell no one about it and to leave it absolutely alone—never to touch it. I have seen a number of cases where I have given these instructions and where I have told them to report at some distant time, and upon their return the suspicious nodule has entirely disappeared. I believe it is a general belief that most malignant growths are in the beginning a benign growth, and that many of them, if let alone, not stimulated to action by this process of massage that patients are so prone to resort to, and if the condition is not talked over, they will disappear. One of the best ways to get them to disappear is to have the patient cease to notice them and tell none of their friends. As soon as it is known among their friends, these friends are constantly bringing the matter to their minds, the patients become nervous, and consequently they commence this going around to different practitioners and having this constant massage treatment which stimulates the growth, and as Dr. Ochsner says, produces small foci of infection in the surrounding tissue. I had not thought about this idea of implantation where there has been recurrence, but I doubt not that it is so, and also that where the needle passes through the skin, we have caused a reinfection in the tissue. In connection with this again, I have come to the conclusion that where the case is so far advanced that the breast has broken down and we have a large sloughing ulcer, no matter what we do, we are not going to be able to save the patient. I remember seeing a breast of this kind three or four years ago where we operated, and the patient made a perfect recovery. There was no reappearance of the disease in the breast, and she went along for about eighteen months in apparent health. She then developed what another physician said was consumption. I was called in consultation the day before she died and she was being treated as a tuberculous patient. Upon her death I requested and obtained a post-mortem examination, and found the whole liver and more or less of the entire internal viscera infected and studded with carcinomatous growth.

Dr. Carl H. Andersen (Chicago): Being a young man, naturally any paper written by a young man is of great interest to me. The subject of carcinoma of the breast is a large one and one could talk a long time on the different points brought out by the doctor. I am against laboratory work in these cases. I do not believe that any one is justified in removing a section from a breast for microscopical examination and then afterwards operate if necessary. I think all cases that show lymphoids in the breast, and especially where they are accompanied by the shooting pains should be subjected to amputation of the breast and dissection of the axillary glands. Generally these cases come to us too late. In the first place the patient doesn't discover them early herself, she does not go to her physician at once when she does discover the nodules, and I don't know why. After she does go to him, if he advises operation he is generally called a butcher, and it is said that all he wants is to cut, and she goes to some one else, and so down the line. In this way the breast is thoroughly massaged and irritated, and when the surgeon does finally get

the case, the breast is in a much worse condition than it would have been if he had been allowed to operate early.

Dr. H. Hatch: I don't want the last speaker to misunderstand me. I said that if you could not prevail upon a patient to have a suspicious nodule removed when they first consult you, they are to be instructed not to talk about it to any one.

Dr. W. A. Tichenor (Chicago): I have listened to Dr. Andersen's remarks about the ladies having these nodules in their breasts and always wanting to be talking about it. On the contrary, I believe that it is the experience of nearly every man who has had any observation of growths in the mammary gland, that instead of women being inclined to tell of it, they are extremely secretive about it, and do not like to have their friends know about it. This is a fortunate thing, as Dr. Hatch has said, that they do not care to speak about it, as it is the more likely to be handled and the carcinomatous cells carried to other parts of the body. Of course, it goes without saying that these tumors should be diagnosed as early as possible, and the general practitioner who does not see them so frequently, as Drs. Ochsner and Hatch have said, is not responsible for not diagnosing them as early as Dr. Ochsner would; but they do the best they can. It is important, however, that the medical profession should emphasize the fact of these growths possibly being malignant, and as Dr. Andersen has very wisely suggested, they should be removed as early as possible. The microscopical examinations that I have made, even after the tumor has been removed, have not been very satisfactory.

Dr. C. F. Wahrer (Ft. Madison, Iowa): I want to draw attention to one thing that may seem to differ very much from the opinion of my friend from Quincy. Every surgeon absolutely wants to encourage, not that a woman who has a nodule in her breast to keep still about the matter, but that she should seek a physician's advice at once. We must educate our patients, educate all with whom we come in contact, that it is a dangerous procedure to allow any suspicious nodule in the breast to remain unnoticed until they come to you with a great big tumor in the ulcerating stage and want you to perform something that will remove it. Why people will put off for so long, until the day of salvation is past, I cannot imagine; and I think we want to instruct all with whom we come in contact that when they have any kind of a nodule, whether in the breast, whether in a man or in a woman, to go to some sensible physician and take his advice about it and let him use his best judgment. It is wise to alarm our patients about such growths as these; they may be tuberculous glands or scrofulous manifestations (whatever that may be), they may be sarcomatous, carcinomatous, or what not? so they should be attended to early and not allowed to remain until they hang down as big as a candy bucket, and until such changes have taken place as to make recovery a matter of extreme impossibility. In these cases, as well as many infectious diseases, there is a dead-line, as it were, which after once being passed, it is impossible to retreat. Early and thorough attention to such matters reflects

honor upon the profession, while procrastination kills our patients and throws discredit upon medical science.

Dr. W. A. Tichenor: It is not enough to educate the patient. Educate the laity, let the laity know the importance and danger of these nodules growing about the body.

Dr. Alfred Roulet: Regarding the possibility of a tumor of the breast being other than carcinoma, 85 per cent of all tumors appearing in the breasts of women over forty-five years of age are carcinomatous; of the other 15 per cent the majority are either sarcoma or adenoma. In any case where the diagnosis is doubtful, extirpation is advisable. I do not wish to be understood as depreciating the value of a careful microscopic examination, after the tumor has been removed, to render certain the diagnosis; but the cutting away of sections previous to operation cannot be too strongly condemned, as the resulting irritation is often sufficient to set up a very active tissue proliferation in the growth itself. When the cuttings have to be sent to a distance the delay is very often deleterious to the patient. I have noticed the pathologist invariably demands a complete clinical history, together with enough other information about the case to make a diagnosis without the aid of the microscope, before he gives you the benefit of his opinion.

A DEMONSTRATION OF SOME PATHOLOGIC SPECIMENS ILLUSTRATING THE VARIOUS DISEASES OF INFANCY AND CHILDHOOD.

By I. A. Abt, M. D.,
CHICAGO.

Case of Syphilitic Infection.—This infant was greatly cyanosed, and died shortly after birth. The father acknowledged syphilitic infection, but the mother had never had the disease. There were no surface markings. The liver was of immense size and the spleen was also greatly enlarged. There was a moderate amount of ascites on opening the abdominal cavity and the mesentery glands were generally, though slightly enlarged. The child showed evidences of a double hydrocele, which is a common finding in cases of congenital syphilis. On splitting up the femur vertically with the saw, one observes in this case that the line of junction between the epiphysis and the diaphysis is an irregular one, somewhat broader than normal and is of a reddish-brown color. This irregular, or jagged line indicates a condition of inflammation at the junction of the epiphysis and the diaphysis, and is spoken of as osteo-chondritis. Osteo-chondritis is pathognomonic for congenital syphilis; it occurs not only at the site referred to, but it may be observed in any of the long bones, particularly of the extremities. There is one other thing of interest. The lungs are atelectatic—here and there, slight foci of inflammatory consolidation are observed.

On microscopic examination, it is seen that the alveoli are filled with epithelial cells and leucocytes. There is also as well a slight increase of the interstitial connective tissue, though the fatty change of the epithelium constituting the pneumonia alba of syphilitic children, is not observed in this case.

The thymus gland is very large, and upon incising it, pus exudes freely from the incision. The thymus is filled with multiple abscesses, probably due to a mixed infection. This condition is not rare, and is frequently referred to by the writers on congenital syphilis.

Diaphragmatic Hernia in an Infant.—The defect in the diaphragm in this specimen, is on the left side. A shred of muscle remains anteriorly. Three fingers can easily be passed through the defect in the diaphragm. It is observed that the heart is pressed to the right, and lies in the right thoracic cavity. The small intestine and the larger part of the stomach occupy almost entirely the left thoracic cavity. The left lung is rudimentary and occupies a small corner of the left thorax.

Microscopic examination of the lung tissue shows it to be atelectatic. The liver, though somewhat large, occupies its usual place in the abdominal cavity. The clinical data in this case were not furnished.

Inflammation of the Bowel of an Infant; Process Has not Reached an Ulcerating Stage.—This specimen is the ileum and cecum which were removed from an eight-weeks-old infant during the past summer. Feeding had been artificial and the infant had never thrived; he became marantic and died gradually of a progressive asthenia. In the ileum you will observe that Peyer's patches are intensely swollen and raised, resembling in appearance typhoid lesions before ulceration has occurred. This form of lesion in gastro-intestinal diseases of infants, is rare; there is usually slight swelling of the solitary follicles and of Peyer's patches, but rarely so marked as we find in this case. No ulceration is to be observed in this specimen.

Meningeal Hemorrhage in a New-Born Infant.—This infant was seen in consultation a few hours after its birth. The mother was a primipara and the labor had been difficult. The child was born asphyxiated, was in a comatose condition and did not cry; it lived twenty-four hours.

The autopsy revealed the brain as you see it here. A diffuse hemorrhage had occurred between the dura and the pia mater, giving the entire surface of the brain a hemorrhagic appearance. The pia is everywhere tinged with blood. Where the membrane dips down into the longitudinal fissure, the same appearance presents, as is observed on the convex surface.

These cases are of great interest. They occur after prolonged labor, particularly in primipara after instrumental delivery, and are also observed in those conditions which are spoken of as the hemorrhagic diseases of the new-born. This meningeal hemorrhage usually gives rises to the symptoms of coma and cerebral compression. Many of the children succumb to the disease during the first few days after birth; not a few recover from the immediate effects of the hemorrhage, but remain permanently palsied.

Two Varieties of Intussusception Occurring in the Same Child.—The child in whom this occurred was fifteen months old and of illegitimate parentage. It had spent the first few months of its life in a baby farm, where it had become marantic. It was brought to the hospital in the early part of the summer suffering from an acute gastro-enteric disorder. The child did poorly and during the hot days of summer great difficulty was encountered in feeding it, the marasmus became very marked. There suddenly developed an obstruction of the bowels, with intense pain of a paroxysmal character and a bloody discharge. Collapse ensued and the child died.

Upon autopsy, the intussusception which is to be noted in the specimen which I present to you, was found. It is of the ileocolic variety. The invaginated gut is about two inches in length, is of a dark purple hue, and shows a beginning gangrene. The obstruction was complete.

These cases of intussusception in young children are not altogether of infrequent occurrence. The cases may be divided into three varieties—the enteric, which involves only the small intestine; the colic, which involves the colon, and the ileocolic which is perhaps the most frequent, and is, as the name indicates, an invagination of the ileum into the colon.

No surgical relief was attempted in this case; the marasmus was so great and the course of the disease so rapid that surgical intervention was out of the question.

I have another variety of intussusception occurring in the same child, of the enteric variety; it is the so-called agonal intussusception. It occurs during the act of death and has pathological interest, but is of no clinical significance. These cases, according to Holt, may be found in 8 per cent of all autopsies upon children under two years of age. They are nearly always multiple in character, and as has been said are of the enteric variety.

Epidemic Cerebro-spinal Meningitis.—This brain and spinal cord are from a case of epidemic cerebro-spinal meningitis which terminated fatally after eight days. The history of the case was the following: The patient was seven years of age and was admitted to the hospital June 10, 1900. He had been ill four days before admission. The onset of the disease was marked by severe headache; the child ceased playing and was forced to go to bed; he vomited a great deal, and is said to have had chills and fever. On the morning after the onset he was delirious and did not respond when spoken to. An extensive purpuric eruption was noted on the third day.

The daily notations were as follows: On the second day after admission the child vomited everything; he was extremely restless and the temperature was 100. On June 18 the condition was aggravated; the blood count showed 26,000 leucocytes and 3,850,000 red blood corpuscles. On this day a lumbar puncture was made. The fluid was turbid and was found to contain, in pure culture, the diplococcus intercellularis. On June 19 the patient continued very restless, and the pulse was small and rapid. He died at 10 o'clock p. m.

You will note that the brain seems very large for a seven-year-old child. The convolutions are flattened and the veins of the pia are very

much distended. All along these veins a purulent exudate presents. These lines of pus may be observed following the engorged vessels over the entire convex surface of the brain. Isolated patches of pus are also found on the convex surface, which do not follow the vascular distribution. At the base of the brain the vessels are dilated and filled, and a layer of pus follows along the vascular distribution. A thick, purulent exudate is observed over the optic chiasm and patches may be seen to be distributed irregularly over the base of the brain. It will be noticed upon examining the spinal cord, that the dura mater has been reflected back, the vessels of the pia are engorged and the entire surface exposed by removing the dura, is covered from one end to the other with purulent exudate.

4326 Vincennes Avenue.

DISCUSSION.

Dr. W. B. LaForce: I think the thanks of the society are due Dr. Abt for this interesting exhibition of specimens. It shows another feature of our medical meetings—not a psychological feature, but the real material that forms our basis for medical science. The displaying of pathologic specimens is a matter that has been taken up by the American Medical Association with great profit to the profession, and we are certainly under obligations to Dr. Abt for his interesting presentation.

THE TECHNIQUE AND POSSIBILITIES OF ENDOVESICAL OPERATIVE PROCEDURES.

By Louis E. Schmidt, M. Sc., M. D.,

CHICAGO.

THE Bottini operation and the catherization of the ureters have been extensively discussed in the past few years. Strictly speaking these procedures do not belong to the class of operations under consideration, and for this reason I will not discuss them, but will confine this paper to those operative interferences which are performed inside of the bladder under the guidance of the eye, without any previous cutting operation, which is done for making the interior of the bladder accessible. In other words, operations which can be performed with the aid of instruments, which allow of the inspection of the affected areas of the bladder wall, and at the same time admit of the introduction of mechanical appliances which are used for the different operative procedures. These systems of instruments are called operative cystoscopes. Three distinct types of instruments are distinguished from each other.

Not to go into detail, but simply to mention their important points, and thus show their difference, it will be necessary to enumerate.

1. Nitze operative cystoscope. Here the lamp, prism and window are on the concave surface of the beak. In front of the space between the lamp and the window the operative appliances are placed. In fact the operative appliance carries in its hollow shaft the optical apparatus. The latter is movable so that the operative appliance can be brought to different distances and positions from the cystoscope part. These mechanical appliances are galvano-caustic snare, cautery, small forces and lithotriptic forces.

2. Casper operative cystoscope differs from the Nitze cystoscope in that the lamp, window and prism are on the same plane, so that the whole optical apparatus is straight. The operative part is practically similar to the Nitze.

Both of these cystoscopes compel the operator to work under indirect vision.

3. Kolischer operative cystoscope. With this cystoscope the operator works under direct vision. The lamp and window are situated on the convexity of the beak. To the under part of the cystoscope is attached a canal through which the different instruments are introduced into the viscus. Their working end appears just below and in front of the window.

Considering the merits and demerits of these types it may be stated that the beak of the Nitze instruments is somewhat bulky and clumsy, because in the beak, the operative appliance and lamp are in contact, and must be introduced together. This is avoided in the Casper instrument, as the mechanical appliance is first independently introduced, furthermore the canal of this part is wide enough to allow of thorough flushing of the bladder between the operative stages. On the other hand, the Nitze instrument is more simple so far as its mechanical settings are concerned. Both instruments have the drawback that the operative beak covers to a great extent the field of operation. It has been admitted that these two types, by allowing of the use of powerful instruments, allow of very energetic and extensive procedures.

The Kolischer cystoscope has the advantage of direct view, and that in consequence of its construction, the working end of the mechanical appliances do not interfere with the clear view of the field of operation. Another advantage is to be found in the variety of instruments. While this instrument also allows the use of both galvano-caustic snare and cautery, it is the only operative cystoscope which permits of the use of curettes, scissors, forceps used for picking up and removing small foreign bodies. But in order to keep the circumference within reasonable limits, it, has but a small lumen so that the usefulness of this instrument is somewhat limited by the small dimensions of the mechanical appliances.

I refrain from giving a minute description of the details of construction, which can be more readily understood by examining the instruments I wish to demonstrate.

In passing it is best to mention that Mirabeau and Latzko constructed small appliances which can be introduced into the bladder independently of the cystoscope, and used under the control of the cystoscope. The limited usefulness of these devices is further reduced by the fact that

they are only to be used in the female bladder. The same holds good of the Kelly instruments, which do not approach the perfection of the modern cystoscope.

An important question is one of anesthetics, because a large number of individuals having bladder affections have also kidney diseases, and for this reason it is best to avoid general anesthetics if it is possible.

It is a fact that most of these endovesical operations can be done under a carefully given local anesthetic. The correct application of a local anesthetic is an important necessity. It is best to state at once the great danger of cocainization of the bladder. As a local anesthetic a highly concentrated antipyrine solution is to be recommended. It must not be forgotten that it requires ten minutes, or even longer until antipyrine gives the desired affect, hence must be done at the proper time. The urethra should be anesthetized by cocainization. While it is easy to do this within the pendulous urethra it is best to apply cocaine into the posterior urethra with the Ultzman capillary catheter. After injecting along the entire urethra the external urethral orifice is held fast to prevent the escape of the cocaine solution, and the entire urethra is massaged so as to bring the solution into intimate solution into intimate contact with the mucous membrane of the entire urethra. The disagreeable sensations in the prostatic urethra, caused by the stretching of the deeper layers, cannot be overcome by the superficial cocaine anesthesia, but must be overcome with a morphine and atropine rectal suppository.

Previous to any operative step it is advisable to have the bladder in as good a condition as it is possible to bring it with the usual irrigations, instillations and internal medications. This procedure not only makes the bladder less sensitive, but also brings the localized centres of the pathological changes into prominence.

One of the most frequent indications for this method of treatment are the stubborn cases of cystitis. Under this are comprised not only the inflammation of large areas, but also small localized inflammation as fissures, ulcerations, as remnants of cystitis of the adjacent parts are free from pathological changes. Granulating cystitis is not an uncommon condition, and I wish to state most emphatically that these cases do not respond to the ordinary treatment, but require surgical intervention. The method of procedure is to remove these granulations by curettement, and the method of choice is with the aid of the operative cystoscope. The subsequent hemorrhage is as a rule exceedingly slight. If of any severity nitrate of silver irrigations will cause it to subside. It is my routine to inject, and to leave in, iodoform emulsion after such curettage, on account of the antiseptic and soothing effect

Fissures which if located in the bladder neck cause very annoying symptoms, can readily be healed with a single treatment consisting of an energetic cauterization.

A very important chapter of vesical diseases is the ulcer which follows a gonorrheal cystitis. The frequency of these and the importance of their treatment, has become more recognized since systematic cystoscopy has been practised amongst genito-urinary surgeons. The coating and the

granulations which cover it must be thoroughly curetted, and prompt cure follows. It has become recognized that patients of this class can be treated for years without any results, and one single treatment, with the operating cystoscope, will cure these individuals.

The standpoint of the endovesical operator toward tumors of the bladder should be carefully discussed. Nitze claims that even malignant tumors ought to be operated with the operative cystoscope, pointing out, that definite results even after suprapubic cystotomy and extensive resection are far from satisfactory, and that even large malignant tumors can be removed by the galvano-caustic snare, down to their bases. This standpoint is certainly not approved of by the large majority of surgeons. Under our present view malignant tumors will always call for radical operations after cystotomy. It must be mentioned, however, that if these cases are beyond operation or refuse such a step an endovesical cauterization often gives great relief, especially after necrosis has set in. This interference can be repeated if necessary. I think the proper limitations for the operative cystoscope in cases of tumors, are furnished by the following points: The tumor should show no signs of malignancy. The tumor should not be so large as to interfere with the ease of manipulating the cystoscope. The tumor ought to be pedunculated, although it has to be admitted that even tumors with a large base can be removed with the operative cystoscopes, by removing them in sections. It is remarkable how large pieces can be urinated spontaneously. If single pieces are too large they can be removed by the evacuator, by first cutting them with cystoscopic scissors. There are benign tumors which become incrusted to such an extent that they cannot be operated with the operative cystoscope, for they are too hard, but must be removed by resection of the bladder wall.

Nodular varicosities of the superficial veins which give rise occasionally to severe hemorrhages, are easily removed by cauterization with the galvano-cautery.

Small foreign bodies and immigrated ligatures, needles and hair pins have been repeatedly removed by means of the operating cystoscope. Foreign bodies of some considerable size should not be thus removed on account of the unnecessary traumatism.

The operative cystoscope plays an important role in the after control of litholapaxy. The cystoscope makes possible the minute and exact supervision of the bladder, and the small lithotriptor or forceps of the operative cystoscope is a reliable means of crushing small splinters and removing them. The latter procedures become more important if the sharp splinters become imbedded in the bladder wall. This condition is very dangerous because of the imminent possibility of perforation and suppuration, while even a powerful pump will not remove them.

Although I have given but a short sketch of the more important operative interferences I hope it has been of sufficient detail to impress all of the advantages of these procedures. I have attempted to give the fairly exact limitations, and have not been too enthusiastic in advocating its general adoption.

THE PATHOLOGICAL STATUS OF RETROVERTED UTERI.

By W. A. Tichenor, M. D.,
CHICAGO.

I DO not bring this paper before this society of advanced medical men, expecting to present anything new or startling upon the subject of retroverted uteri. There is probably, however, no condition of female organs that has given rise to more discussion and writings, and more methods suggested, surgical and mechanical, for its correction, than the backward displacement of the uterus. It has occupied the attention of many able gynecologists in this and other countries, which has resulted in many learned and comprehensive papers. The number and variety of surgical procedures, suggested performed, and enthusiastically endorsed for the correction of this trouble, probably exceeds in number that of any operation for the relief of any one trouble, to say nothing of the medical and mechanical measures suggested. Now after a quarter of a century or more spent in trying to devise ways and means to relieve this very frequent trouble, now comes a certain number of surgeons and gynecologists, more particularly our German friends across the water, and tell us that, this condition we have been trying so hard and long to find a satisfactory means of relief for, is not a pathological one at all; and that a woman is just as comfortable with her uterus in a retroverted position, as in an anteverted one; that it has not been so long ago, that we were taught that anteversion was a pathological condition. Now this brings me to the phase of the subject, that is the exciting cause of this brief paper, viz., Is retroverted uteri a pathological condition? Or an abnormal one? here using the word pathological in a broad sense. If I can succeed in stimulating a free expression of the views of the members of the Tri-State Medical Society of three great States of the Union, as to whether retroversion is, or is not, a pathological condition, and if pathological, how to correct the malposition will feel that my effort has not been in vain.

There has been a number of papers written in the recent past, taking the position that retroposed uteri, was not a pathological condition, per se.

Possibly the most noted is a paper written by Carl Schroder, which is quite comprehensive, and gives at some length, statistics in support of his view. He examined 411 women at Konigsburg. Eighty-two were patients in the gynecological policlinic; 184 in the obstetrical policlinic, and 145 in the medical clinic. Of this 411, 118, or a little less than 29 per cent, had retroposed uteri.

From this number of cases he compiles tables, and draws these conclusions, that retroposed uteri uncomplicated by disease of the tubes or ovaries does not materially influence the health of the patient, and does not in itself demand treatment.

A close study of these tables does not fully warrant this conclusion.

While it is true that backward displacement, may be present for a period of time without causing pain or inconvenience, yet is any one prepared to say that in this position, a uterus can perform its function and be

no more liable to trouble than when in the normal, or anteverted position? While the opinions of men of this character and others at home, should not be hastily turned down; yet, on the other hand, should they be accepted without careful consideration? While it is unquestionably true that many women are going about with backward displaced uteri, without discomfort, and have done so for quite a period of time, yet, without enumerating the symptoms usually attributed to backward displacement, such as pain in the back, dragging sensation, painful menstruation, etc., I think there are certain grave pathological conditions found in the uterus and adnexa, in which the first step is the backward displacement.

First.—Among the more grave is prolapsus. It will not be denied that practically all cases of prolapsed uteri, were first displaced backward, for it is practically impossible for a uterus to slide down the vaginal canal if the cervix is well back toward the sacrum, and the fundus well up against the pubes; in this position, it is readily seen the organ lies across the axis of the vaginal outlet, and will not prolapse; but when the fundus is in the hollow of the sacrum, then the organ is in the most favorable position for gravitating toward the vaginal outlet; the organ being pear-shaped, favors the descent.

Second.—The retroverted position militates against the expulsion of menstrual and other secretions.

Third.—This position retards venus circulation, thereby favoring the growth of any pathogenic bacteria that may find lodgment.

Fourth.—It lessens the woman's ability to bear children, by decreasing the chances of conception, and increasing the chances of abortion, about one-third of all gravid uteri abort.

Fifth.—The retro-displaced uterus is a prominent etiological factor in prolapsed ovaries.

Sixth.—Retroverted uteri and prolapsed ovaries are in the most favorable position to be irritated and injured by the passage of hard feces, and during the act of coitus.

For these and other reasons, I must hold, till they are shown fallacious; that a retroposed uterus is a pathological condition, and continuing in this position invites uterine troubles.

A loop of bowel through the internal abdominal ring and inguinal canal finds its way to the scrotum, and patient will perform his duties without inconvenience; and were it so situated that he could not see and handle it, many cases would be no more aware of having a hernia, than many women are of having a retroverted uterus; yet who would even intimate that a hernia at any point between the internal ring and scrotum is not a pathological condition, and a prolapsed uterus might very properly be called a hernia. We replace the gut, and do an operation for radical cure for fear of what may happen, when the hernia per se, is giving little or no trouble. Of course the unfavorable results that may follow a retroposed uterus are not so highly dangerous to life as those following hernia, yet the principle in the two conditions are identical.

In addition to the above enumerated conditions, we know that there is a percentage of cases with retroposed uteri which have painful symp-

toms that are due to the position of the uterus, shown by the fact that a correction of the malposition relieves the symptoms. Hence in the light of our present knowledge, I am still of the opinion that a retroposed uterus is a malposition, and requires the attention of the gynecologists.

If this position is correct, what shall we do for an uncomplicated case of retrodisplaced uterus, with or without symptoms?

I am free to confess that I do not attribute that importance to an uncomplicated case of retroversion without pelvic symptoms, especially in a young unmarried woman that has generally been given to it in the past few years. Hence in answer to the above question, if the subject is a young unmarried woman and without symptoms, I would advise against local treatment looking of course after the general health and suggesting the assumption of the knee chest position night and morning. But if the case presented decided symptoms that were distressing, and referrable to the pelvis, I would advise mechanical and medicinal measures. Regulate the bowels, see that proper clothing are properly worn, nutritious diet and open air exercise.

As to direct measures to relieve malposition, would first relieve congestion and tenderness if present by boroglyceride tampons and hot vaginal douches. After congestion and tenderness is relieved, would endeavor to replace the uterus by careful bimanual manipulation, and I would like to say here that to attempt to replace uterus, by a sound or other intra-uterine instrument is reprehensible it may possibly require several seances before the organ is completely restored to its normal position, when this is accomplished, then endeavor to retain the uterus in antiversion, by a well-fitting pessary. And I would like to pause a moment here to say a word concerning the pessary. The use of the pessary is condemned frequently, from an erroneous conception of when and how to use it. But little knowledge of its use can be obtained from text-books or general literature.

I have had come under observation a number of women, wearing a pessary with the uterus retroverted; inquiry would reveal that the physician had inserted the pessary to correct the displacement, the idea being that by leverage the pessary would in some way pry the uterus into position. The only possible way in which a pessary can keep a uterus antiverted is by its action upon the sacro-uterine ligaments. Of a necessity in all cases of retroverted uteri, the sacro-uterine ligaments are elongated, stretched out, hence we aim to shorten them by making an acute flexion in them with the posterior curve of the pessary. In other words, drawing the cervix toward the sacrum by pushing up the sacro-uterine ligaments with the posterior curve of the pessary, the anterior curve resting on the perineum, and if this is much lacerated or relaxed, it should be repaired before use of pessary.

Therefore, before attempting to use a pessary to retain uterus in antiversion, the uterus must be freely movable, put in normal position, and not sensitive to touch, and ovaries not where pessary will press upon them. With due consideration of these points, and not failing to select a pessary of proper shape and size for each case, the use of the pessary will prove very satisfactory.

But in a certain number of these cases (of uncomplicated cases of retroposed uteri with symptoms referrable to pelvis) we are unable to correct the malposition or relieve the pain by medical and mechanical means. Now the question of surgical interference arises, if this is decided upon, what surgical method shall be adopted? In my humble judgment these are the cases in which an Alexander should be done, and the only class. The Alexander to my mind has some serious objections, the gravest is that, on opening the inguinal canal, and drawing upon the round ligaments, we do not bring the uterus in good anti-verted position, but suspend it as it were on a higher plane in the pelvic cavity; while it is true, it brings it to a point where the intra-abdominal pressure will strike it posteriorly, and will in time bring it to full anti-version, but this puts the round ligaments on the stretch, and to this stretching is due the drawing sensation that patients often complain of for a period of time after an Alexander. Again, it makes, as usually done, two scars in abdominal wall, which is quite an eye-sore to a comely, unmarried woman, and we are compelled to use the weaker portion of the ligament, fastened in the inguinal canal, and a goodly per cent of the uteri will again become retroposed. For these and other reasons, I am convinced that the Alexander operation has a very narrow field of usefulness in gynecological surgery

This brings us to the consideration of that class of cases of retroposed uteri accompanied with other pelvic troubles.

It has been the practice of a goodly number of gynecologists who are fond of the Alexander operation, to consider the case suitable for this procedure when the uterus is freely movable and no pathology is discoverable and the organ can be replaced. This can be done when there is very decided pathology within the pelvic cavity, pathology that cannot be discovered by palpation. But a few weeks since I saw in Dr. Webster's clinic in this city, the abdominal cavity opened by him, in which the symptoms of pain in the case was out of proportion to the pathology that could be found on physical examination. A movable retroverted uterus was all that could be made out; but section of the abdominal wall revealed a long slender band reaching from the fundus to the rectum, it would stretch and pull up the rectum sufficient to let the uterus come well forward. The ovaries were studded with small retention cysts. The band was severed, the ovaries resected, and the uterus retained in normal position by his method. Now this case so far as could be determined, before inspecting the parts, was a typical one for an Alexander and which operation instead of relieving the trouble would probably have added to it, and I am constrained to think that simliar conditions are present more frequently when an Alexander is done than we think for; and our patient is no better after operation than before. Only last August, while in Buffalo, a beautiful, bright, unmarried woman was the guest of my family, and during the time her menses came on, and hemorrhage was so severe and persistent, that after consultation with no less authorities than Mathew D. Mann and Roswell Park, a curettement and Alexander was done. The hemorrhage was controlled; but otherwise the patient was not so comfortable as before

the Alexander, and has not been able to walk two blocks since the operation, and writes me that she thinks of submitting to further surgical measures in the hope of relief.

When it has been determined in a given case of retro-displacement to resort to surgical measures for relief all evidence, both physical and symptomatic, of pathology in the pelvic cavity, should be absolutely absent, before the Alexander operation is decided upon. If this is done it will be found that only a small percentage of retro-deviated uteri are suitable to be dealt with by the Alexander operation. Therefore, as by far the larger per cent of retroposed uteri are complicated with other pathological conditions; to deal with these it is necessary to open the peritoneal cavity either through the vagina, or the abdominal wall. It is not within the province of this paper to discuss the merits of the two routes; suffice it to say that it will be readily conceded that by far the larger proportion of cases of retroverted uteri with diseased ovaries, tubes, adhesions, etc., can best be dealt with through an abdominal incision. After having entered the peritoneal cavity through the belly wall, and dealt with the pathology found, it is then necessary to adopt some measure that will properly retain the uterus in normal position.

A number of methods have been devised and reported in the current medical literature, the most of them have merit, and the profession is generally familiar with them; and to enumerate and discuss them here would take too much time, and doubtless not interesting. There is no one operation yet devised that seems to meet fully all the conditions that may arise.

There are two operations that have been published within the past two years or little longer, that I would like briefly to call attention to. I refer to the operation devised by Dr. Alex. Hugh Ferguson and Dr. J. Clarence Webster, both of this city. In both, the proximal end, and in consequence the stronger portion of the round ligament, the natural tissue to suspend the organ with, is used. They are both comparatively easy of performance; and to my mind come nearer meeting all the requirements when other pathology is present in cases of retroverted uteri than any operation yet devised. The Ferguson operation, as now done by him, consists in a median incision, and after dealing with pathology found, the tissues above the rectus muscle is retracted outwards; a puncture is made through the remaining tissues of the belly wall, a forcep thrust through the opening, made to grasp the round ligament, and withdrawn, bringing the ligament with it which is sewn with catgut to the fascia and muscles; for an accurate description of the operation will refer you to his publication.

Dr. G. Tod Gilliam, of Columbus, Ohio, has made some modifications of the operation, which have value, and which were published in the Journal of the American Medical Association of June 15th, 1901. This operation brings the uterus into its normal position, by means of the stronger portion of the natural suspensory tissues of the organ, and securely holds it there; will not interfere with subsequent pregnancy, and is the operation par excellence in cases where there is a tendency to pro-

lapse. It does not admit of much mobility in distention of the bladder and rectum. But so far as I can learn, there has been no complaint on this account, though this criticism has been made.

Dr. Webster also uses the intra-abdominal portion of the round ligament in his method of retaining the uterus in normal position. He thrusts a forcep through the broad ligament from behind, which is made to grasp the round ligament, and brings it through the opening thus made to the posterior surface of the fundus of the uterus, which has been previously anti-verted and sews it there folded upon itself. Dealing likewise with the ligament of the opposite side. This procedure has the advantage of leaving the uterus sufficiently movable, and can be done through the vagina. But is probably not so acceptable as the Ferguson operation when there is a degree of prolapsus. To my mind one or the other of these operations seem to meet all the requirements of a retroposed uterus when the peritoneal cavity is opened for other cause.

In cases where tubes and ovaries have been removed and time is an element, I see no objection to ventro-suspension as devised by Howard Kelly.

DISCUSSION.

Dr. Alex. H. Ferguson (Chicago): The paper presented by Dr. W. A. Tichenor, although the last on the program, is not at all of the least importance. The subject of retrodisplacements of the uterus and the manner of treating the same, is as interesting as any of the various opinions and procedures that have been advanced in the last twenty-five years. In the time allotted to the essayist, he has dealt with this subject very ably. The operative procedures recommended by Dr. Tichenor, are, in my opinion, correct. This does not exclude, however, a large number of other operations that have been performed through an anterior colpotomy incision. The operation of Emil Ries, of tunneling the uterus and drawing the round ligaments through this tunnel, appears to me to be superior to the operations which fold the round ligament upon itself, as was formerly recommended by Dudley. An excellent procedure is that brought forward by J. C. Webster of this city, and it is probably an improvement upon all the vaginal operations when the uterus is not prolapsed. Byford, Campbell and a number of others perform operations through the vagina which are suitable in a large number of cases, and no doubt have good results. The only operation to be selected by the vaginal route is the one that anatomically and surgically suits the indications of the particular case.

I have devised and brought forward an easy method, and suitable for a number of cases, by which, through the vagina I suspend the uterus to the anterior abdominal wall, in the same position as left by the Kelly operation from above. The uterus is turned into the vagina through an anterior colpotomy incision, a ligature fixed to the posterior fundus of the uterus, a puncture made in the linea alba at the pubic fold and a blunt needle passed through the abdominal wall above the bladder into the vagina and threaded with the ligature already fastened to the posterior

fundus of the uterus. The needle and ligature is withdrawn through the abdominal wall, and by fastening the one thread in the linea alba and tying it to the other half of the ligature, the uterus is suspended. The same objections to this operation maintain, that have been brought against the Kelly operation, because it is Kelly's operation without Kelly's technique. The result is exactly the same.

The operation which I prefer for all backward displacements of the uterus, is the anterior transplantation of the round ligaments, which I presented at the Denver meeting of the American Medical Association several years ago, and in every case where consent is given to open the abdominal wall from above, I do this operation without ever having had an accident or bad result.

Dr. O. Beverly Campbell (Chicago): I think we can hardly agree not to discuss this paper. The subject of retrodisplacements of the uterus generally brings forth a liberal discussion, probably for the reason that we have such a variety of methods of operative treatment, and as well because the profession are not a unit as to the indications for treatment in this class of cases. I can hardly agree with the position of Schroeder as regards simple cases of backward displacement being non-pathological, especially if of long standing. As regards the symptomatology, I believe there are some cases where no symptoms can be referred to the displacement. However I do believe that most cases do cause symptoms that may be directly ascribed to the displacement. As regards operative methods for correction of the displacement, I am becoming more convinced as my experience increases, that in the majority of cases of retrodisplacement that require operative measures for correction, it would be better to directly inspect the uterine appendages, either through an abdominal or vaginal incision.

Dr. C. H. Andersen (Chicago): I would like to have the president call upon Dr. VanHoosen, who is present, for discussion of this paper.

Dr. W. A. Tichenor: I am very thankful to the members of this society for the consideration they have given my paper. I would like to say in reply to Dr. Ferguson that I did not mean to be understood that I believe no other method but that of Dr. Webster's through the vagina, was useful. I did not take up the subject of operations through the vagina at all; I merely mentioned that it was possible to do Webster's operations through the vagina. I mentioned that there were a number of methods of replacing the uterus through the vagina.

LIGATION OF ARTERIES (COCAINE ANESTHESIA).

By B. Merrill Ricketts, Ph. B., M. D.

CINCINNATI.

A PLEA is herein offered for a more general use of cocaine for local anesthesia, especially for operations upon the head, neck and extremities. It should not only be more generally applied in those regions, but, on occasions demanding it, to parts of the trunk as well.

Its use has become better and more generally understood than any of the local or general anesthetics. It is certainly more efficacious, more desirable, and less dangerous. It has a wide scope of usefulness, while, as yet, it has been applied to but a limited degree.

Reference is made to its application to operations of any character on the extremities, and especially to its application in those involving the blood-vessels.

Indeed, there are but a few kinds of surgical operations that have not been done in a very satisfactory way with the local use of cocaine.

Cocaine anesthesia will not only permit of the ligaturing of the more important blood-vessels, but celiotomy for various purposes as well. The removal of the various *neoplasms, malignant and benign; plastic operations upon nerves, cutaneous, muscular and bony structures* in a healthy or pathologic state; removal of foreign bodies, or amputation of any part of the upper or lower extremities, are advised.

Amputation of the shoulder-joint has been successfully accomplished with cocaine as a local anesthetic by Crile, and while there is no recorded case for demonstration, there is no reason why even amputation at the *hip-joint* should not now be accomplished in this manner.

Since the injection of a solution of cocaine into the nerve-trunk or its sheath, or both (known as blocking), was advanced by Matas and Crile, a greater scope of usefulness is available. The blocking method prevents afferent impulses from reaching the central nervous system, and in this way shock is prevented. Crile's theory has shown this to be the cause of shock, and that injury or operation may excite afferent impulses to produce it.

Subcutaneous injection of cocaine was first practiced in 1884 (the year the drug was first placed on the market); since then much excellent work has been done with it, both subcutaneously and upon mucous membranes.

The effects of the remedy have become better known from experience and careful study, until now there can be no question as to its occupying a most prominent place, along with ether and chloroform, in surgical work. Cocaine should not be used in all surgical operations or kinds of operations; neither should ether, chloroform, nitrous oxide, or any of their combinations. There are cases that will necessitate the use of an anesthetic that will produce unconsciousness. Just so are there cases which demand

nothing more than a local anesthetic. The judgment of the operator must be relied upon in the selection of the anesthetic to be employed.

INDICATIONS.

The use of cocaine for operations is especially indicated in pulmonary, cardiac and renal diseases; also in case of exhaustion from any cause.

During unconsciousness emergency work may be accomplished by "blocking" the nerve trunk. In this way further shock may be prevented and much time saved. Then, too, subsequent excitement will be much less marked.

HEAD AND NECK.

The nerves supplying the head and neck, being so very inaccessible, offer but little opportunity for "blocking." Subcutaneous injections must, therefore, be resorted to. The external soft tissues of these regions may be subjected to operations upon the mucous membranes, when local applications or subcutaneous injections are made separately or combined. The constitutional effects of a given amount injected in the head, face and neck are more marked than when injected in other parts of the body or extremities. This is due to two causes—more rapid absorption and its proximity to the brain. For this reason less cocaine should be used and the blood-vessels avoided.

Larynygototomy, laryngectomy and amputation of the breast can and should be more frequently performed with the subcutaneous use of cocaine. Resection of one or more ribs can be accomplished with ease, and should be resorted to with cocaine in many conditions of the chest requiring surgical intervention.

The removal of blood, pus or serum from the pleural or pericardial cavity, should be done in this way. Pulmonary abscess, injuries to lung or heart, are made surgical by its use. It should not be applied to the heart-muscle itself, but to the pericardium and overlying tissues to be incised or sutured.

Any operation whatever may be made upon the shoulder or arm by injecting the brachial plexus, which is best reached through an incision intended for ligation of the subclavian artery. The artery may, if necessary, be ligated through the same incision which has been made for the subcutaneous injection of cocaine. The amount required for injecting the nerves need not exceed one drachm of a ½ or a 1 per cent solution. This was the method employed by Crile in amputating at the shoulder-joint, which was so successfully accomplished, with recovery of patient.

For operations about and below the elbow a consideration of the musculo-cutaneous, median, ulnar and musculo-spiral nerves, one and all, must be given, the degree of anesthesia being proportionate to the number of nerves injected, and the thoroughness with which it is done. Only a few drops is required for each individual nerve.

LOWER EXTREMITY.

The injection of the external cutaneous is done with ease, it being superficial. The anterior crural should also be injected, together with the great sciatic.

"Blocking" of the anterior crural and sciatic nerves will produce sufficient anesthesia to make any operation below the point of puncture painless. This nerve is best reached at the lower and middle border of Poupart's ligament. It is more easily approached than any of the greater nerve trunks of the extremites, and for that reason it is probably best to inject it in all important operations that are to be made upon any part of the leg with cocaine anesthesia.

The sciatic nerve is best injected through an incision in the gluteal fold.

SCROTUM.

The ilio-inguinal and genito-crural nerves supply the scrotum and its contents. The first accompanies the spermatic cord through the inguinal ring to supply the integument of the upper thigh and scrotum in the male and the labium in the female. It varies in size, usually small, and connects with the ilio-hypogastric. When it does a branch of the ilio-hypogastric takes the place of the ilio-inguinal, or the latter may be altogether absent. In the second (genito-crural) the first branch passes through the internal ring to accompany the spermatic cord posteriorly to the cremaster muscle in the male and the round ligament to the female.

Injection of these nerves may be made in the same incision necessary for doing any surgical operation upon the scrotum or its contents. In this way 90 per cent of all operations upon the scrotum may be accomplished without pain or danger to life so far as the anesthesia is concerned.

ANEURISM.

Subcutaneous injections alone in and about the field of operation are all that is necessary to make ligation of arteries of the extremities painless. However, "blocking" the nerve trunk is most practical, and no doubt should be done as a rule. There is more or less pain in tightening the ligature about the artery in subcutaneous injections unless the sheath of the artery be also injected. The use of local anesthesia is especially desirable in aneurism in the extremities.

METHOD.

A ½ to 1½ per cent solution of the best cocaine should be secured and the operator should know how to use it, and none other. An amount of solution containing from one-half to one and a half grains of cocaine need not be exceeded in performing any operation. Subcutaneous injections alone for operations will require more of the drug than where the injections are confined to the nerve trunks. The amount of cocaine necessary for the incision to reach a nerve trunk is but a trifle more than the amount necessary for injecting one or more nerves. If subcutaneous injections alone be resorted to for operations involving more than the cuta-

neous structures, besides making deep primary injections, it will be necessary now and then to inject sensitive fascia or muscle, or both.

It is necessary in all cases where the bone is involved, necessitating attack, to inject the periosteum directly; that its sensibility may be overcome in this way the periosteum may be divided and retracted without pain or discomfort.

Subcutaneous injections alone are not so desirable for operations upon bony structures as "blocking," especially prolonged operations; such injections in the fingers and toes will make them senseless and permit of the bone being divided without pain.

Celiotomy may be made with the subcutaneous use of cocaine. In such cases it is well to inject the peritoneum also just before dividing it.

ADVANTAGES.

The danger of the drug is nothing if properly used, and it can be thus applied (a thing that cannot be said of ether, chloroform, nitrous oxide or any of their combinations). Nausea, vomiting, cephalalgia, nephritis, bronchitis, pneumonia and shock are absolutely avoided.

Crile says that injections into a nerve will not produce degenerations anywhere in its course, but that a needle puncture in the spinal cord will do so. This, together with a very high death-rate and uncertainty of anesthesia, should be sufficient to condemn spinal anesthesia. It would be just as rational to inject it into the cerebral arachnoid cavity.

DISCUSSION.

Dr. H. A. Leipziger (Burlington, Ia.): My experience in the use of cocaine for surgical procedures is very limited. I must admit being very much edified and instructed by Dr. Ricketts' excellent paper, and should feel encouraged to make more use of the drug for this purpose than I have done before. I must say that my experience with cocaine in the so-called minor procedures has not been as successful as one might think might be the case. It may be due to imperfect technique in its use, or the cocaine itself might not have been of a purity to obtain perfect absence of danger. Speaking of so-called minor surgical procedures, I believe that bacteriological factors surround all surgical procedures, I am of the opinion that the term should be dropped. The cutting of an abscess in the periosteum of a finger, is as grave a surgical procedure as cutting off the leg, as far as the dangers of infection are concerned; consequently all operations are serious and are grave, and ought not to be classed as minor any more. I have had from the use of cocaine in these so-called minor operations, quite a little discomfort occasionally arise, and it has made me rather hesitate in its use where I could not circumscribe the absorption of the drug. That may have been the experience of a great many others, and I can't add anything to the value of the paper, nor detract from its excellence by any detailed reference. It may have been due to faulty administration, or to the non-purity of the drug used, but there have been some constitutional disturbances follow the use of the drug in this work, such as trou-

ble with the eyes lasting for a half or a whole day, flushing of the head equivalent in intensity to that following the use of chloroform and ether. I have not, however, seen any grave, or long-lasting serious results.

Dr. Flavel B. Tiffany (Kansas City, Mo.): I have been interested in Dr. Ricketts' paper. I have had some little experience in the use of cocain hypodermically, in practicing ophthalmology. I make nearly all my operations on the lid with its use and I use a little stronger solution than is mentioned in the paper of Dr. Ricketts; I use about 1 per cent. I almost always add to this adrenalin chlorid and after that I get no hemorrhage whatever. I have used it a great many times in plastic surgery, removing large skin grafts without any pain. In operating for entropion or ectropion for instance, where I use the electric cautery, I employ cocain hypodermically, without pain or any complications. I have never had any bad results from its use in this way. I have seen some disturbances from its use on the mucous membrane. I have enucleated the eyes several times by injecting the solution back of the eye and sometimes I inject it into the eye and then enucleate the eye with scarcely any pain.

Dr. Harold N. Moyer (Chicago): I am not sure that I know just what Dr. Ricketts' paper is about. It is labeled "Ligature of Arteries." Parenthetically, he throws in "cocain anesthesia." I notice that the discussion, at least, has been leveled at the parenthesis and not at the body of the paper. The whole question of cocain local anesthesia is still *sub iudice*, and it will need more than the *ex cathedra* dictum of our friend Ricketts to settle it. Personally, I would rather take my chances in the hands of a good anesthetist, even with chloroform, preferably with ether, than have cocain injected into my spinal canal. With this new, or rather new-old system of blocking brought out by Crile, there is considerable that is interesting; namely, the injection of the larger nerve trunks so as to throw into the pathway of nervous impulse, a local anesthetic. It seems to lessen shock and the toxic effects are minimized. It is possible that in the surgery of the future, cocain anesthesia is going to have an important place. It is a promising field, but is still in its experimental stage. It must of necessity, be somewhat limited. The difficulty of reaching the nerve trunk, even a large one, is considerable.

In the infiltration method, according to Schleich, suppuration is common. It is only within the last year or two that solutions of cocain that are sterile, have been procurable. One would better rely upon a good manufacturer for a cocain solution than upon his own efforts to sterilize. Cocain, as is well known, loses its active properties by heat, and the cocain upon the market is subject to a great many impurities. I do not know today, where, in Chicago, an absolutely pure hydrochlorate of cocain could be obtained. Many of the untoward results in the spinal anesthesia are due to the impurities and the difficulties of sterilization.

Dr. B. M. Ricketts: In reply to the discussion, I would say that I only speak of spinal anesthesia to condemn it. It is the one thing that I have never done, the one thing that I have never had courage to do, fear-

ing a degeneration of the spinal cord following the introduction of the cocain. As to the use of adrenalin, I think there are some advantages to be obtained by combining it with cocain, but in the finer plastic surgery about the face and elsewhere, the very fact that it prevents hemorrhage is against it, because without vitality we do not get primary union. The subcutaneous injection of cocain and the system of "blocking," are two things, separate and distinct. I have amputated the thigh, the leg, the arm, the fore-arm, operated on the breast, performed herniotomies and operations on Hunter's canal with the use of cocain anesthesia. The toxic effect of the cocain in the "blocking" system, is nothing. You can take a one-half per cent solution of cocain and inject it into the nerve itself, and that is sufficient to produce anesthesia. I have injected it directly into the brachial plexus, using from two to five drops in each branch. It can be used in conjunction with ethyl chlorid

It is so with the anterior crural nerve and with the sciatic nerve. It has been said here that cocain anesthesia is in its experimental state, but I am of the opinion that enough work has been done for us to arrive at some conclusions. I spoke of the importance of applying cocain to the heart muscle locally. I have done this in my experimental work upon the heart, but I am not yet prepared to say anything definite, except that it does have some effect upon the heart. I believe, however, that the preponderance of evidence of the experimental workers will be against the use of cocain injected into the heart for the purpose of suturing. I do not know that suturing of the heart is attended with any special pain. It has been done upon patients who have had no anesthetic at all and they made no complaint. From an experimental point of view, I would be a little cautious about using cocain in or on the heart muscle.

PLASTIC SURGERY IN OPHTHALMOLOGY.

By Flavel B. Tiffany, M. D.

KANSAS CITY, MO.

IN speaking to you of plastic surgery in ophthalmology the time allotted will not admit covering the entire subject in detail, so I shall only refer briefly to some of the operations; such as those for distichiasis, trichiasis, entropion, epicanthus, symblepharon and pterygium and dwell more particularly upon these for pronounced ectropion due to partial destruction of the lids and adjacent parts by burns, by lupus, cancer, etc., and to congenital ptosis where there is entire absence of the levator palpebrae superioris. In many persistent cases of trichiasis, distichiasis and entropion where the lashes appear at the mucous line directed toward the eye-ball fretting it and causing keratitis, pannus and kindred troubles, if there is no integument to spare, the operation known as Von Milligan's seems to be the one especially indicated. This consists in grafting a strip of mucous

membrane take from the patient's lip or vagina or from the conjunctiva of a rabbit. The operation is made by slitting the margin of the lid at the conjunctival line from punctum to canthus, taking care that all the ciliae are within the outer flap, then into this slit transplant the narrow strip of mucous membrane two or three mm. wide at the center, gradually tapering to a point at each end. The strip is to be held in place at the middle and at both ends by delicate silk sutures passed through the edges of the flaps without piercing the graft, merely overbinding it. This strip wedges the margin of the lids with the erring lashes away from the eye-ball, and so corrects the distortion. But in the majority of cases of entropion, even in triple rows of lashes with many of the ciliae turning against the eye-ball if the lashes are within the intra-marginal space I rely upon the cauterization treatment. This operation being to incise with white heat the whole length of the lid from end to end, parallel to and two or three mm. distant from its margin. I use the knife electrode cutting down to the cartilage. In pronounced cases where there is hypertrophied cartilage, I burn slightly into the cartilage, taking care not to go too near the edge of the lid for fear of destroying by the intense heat the hair follicles. The cicatrix caused by the cauterization draws the margin of the lids with the erring lashes away from the eye, correcting the entropion or distichiasis. The cauterization also promotes absorption of the hypertrophied tissues reducing the thickened lid and restoring it to its normal curve. I also use the electro-cautery in the majority of cases of ectropion. In ectropion I make the incision through the palpebral conjunctiva, from near the punctum to the outer canthus parallel to and two or three mm. from the margin of the lid. In aggravated cases I make two or three parallel incisions, the third being at, or near the retro-tarsal fold. Probably 95 per cent of all cases of ectropion which have come under treatment both in my public clinic and private practice within the last three years, I have cured by this treatment. The operations are made under the influence of cocaine and adrenalin, very quickly and without pain or hemorrhage. In entropion I use the cocaine hypodermically, in ectropion by instillation. In symblepharon and pterygium I liberate the band from the cornea or its margin, tuck the band under itself and stitch it there. I then sear the scleral bed with the electro-cautery and close the coloboma with silk sutures. I never clip away any of the tissues. For epicanthus where there is an exuberance of integument, causing a fold over the inner portion of the lids, examplified in Mongolians, I take a diamond-shaped piece of integument from over the base of the nose, then bring the edges together and so lift the fold from the eyelids.

I wish to call attention especially to the operation of skin grafting for the restoration of destroyed lid and to the operation for congenital ptosis. Of course the Thiersch method is not to be considered in cases where the lids are to be restored, and correctly placed; in such cases only plants of the entire thickness of the skin will do. These plants can be used with or without a pedicle. If there is sufficient healthy skin of the adjacent parts, a piece may be slid around from the temple, forehead, nose or cheek with a pedicle; but if the face has been badly burned or eaten by disease, leav-

ing naught but cicatricial skin tissue, then the grafts must be taken, as advised by Dr. Wolf, of Glasgow, from some remote part of the body, preferably, where it is thin and flexible; as from the inner surface of the arm or chest. It has been my experience that grafts without a pedicle are as likely to live as those with, the principal point being to graft them upon a granular surface having them entirely free from blood and subcutaneous connective tissue, and without passing them through any antiseptic fluids. I frequently transplant grafts as large as two by three inches, always cutting them larger than the surface to be covered, so as to allow for shrinkage, which invariably takes place. In building up the lid, for instance, I cut the graft sufficiently large, to shove the margin of the lid upon the eye-ball, even producing at the time entropion. There is not so much shrinkage of the graft if care be taken to clip away all subcutaneous and areolar tissue before planting it. The following case will illustrate very well this particular form of plastic surgery in ophthalmology. The patient, Mrs. F. W., aged 43, gave the following history: "About two years ago a growth appeared just below the cheek bone of the right side of my face. Our family physician called it ringworm and treated for that, but after two months treatment with no improvement, he changed his mind and began using caustics upon it. At that time a travelling specialist was in the neighborhood and he treated it with a plaster. But in spite of all this, the growth continued to increase. Later on I came to Kansas City and consulted Dr. Knoche who pronounced it lupus and treated it with the X-ray, applied every other day from September 7, 1901, to January 28, 1902, when he pronounced it cured." No history of cancer in the family or any specific disease could be elicited.

As a result of the treatment Mrs. F. W. received from Dr. Knoche the growth seemed to be arrested, but there remained a great deal of cicatricial tissue which contracted the lower lid downward and the corner of the mouth upward, causing a very unsightly appearance, as well as a feeling of constant tension in these parts. The upper eyelid and eye-brow were also involved in the contraction of the cicatricial tissue, resulting from the use of the paste by the "specialist." As a consequence of these contractions, the palpebral conjunctiva of both the upper and lower lids as well as the ocular itself was exposed (Fig. 1), resulting in irritation and inflammation of the cornea, as well as constant epiphora, which excoriated the face.

Five days before making the skin grafts, I made a preliminary operation, by which I liberated the margin of both lids from scar tissue by making incisions from the puncta to the canthus and dissecting the margins till the palpebral aperture could be closed. I then freshened the lids at the mucus line and sewed them together; in other words made tarsorraphy. This left two large raw surfaces, one above and one below the eyelids each of about one and a half inches long and three-fourths of an inch wide which were to give later a succulent granular surface for the skin grafts, securing them thus a better chance to live. The skin for grafting I removed from the chest of the patient, close to the anterior axillary line including both the dermis and epidermis. The dimensions of the surfaces

to be covered being each 25 mm. by 47 mm. The pieces removed were somewhat larger to allow for shrinkage. After removal I placed each piece upon the back of my hand and with curved scissors removed any adipose and areolar tissues that were still adherent to the grafts. I then applied the plants, without passing them through any solution, to the granular surfaces of the face, holding them there not by sutures, but by bandage. The grafts were dusted with iodoform powder and dressed with iodoform gauze. This dressing was left undisturbed for one week, and when removed both grafts were adherent throughout, and no evidences of suppuration could be seen. The plants had taken on a pink color, indicating that the circulation of blood had already been established in them.

Both operations were performed under the influence of cocaine, a one per cent solution being used hypodermically. The patient said she felt no pain whatever, and that the unpleasant sensation of drawing at the corner of the mouth was greatly relieved. I do not expect to liberate the

No. 1.

margins of the eyelids for two months or more. But shall keep them closed to prevent epiphora which would interfere with the perfect healing of the grafts; and also give a chance for the cornea to recover from the irritation caused by exposure.

Photograph No. 1 represents the condition of the face as photographed by Dr. Knoche during his treatment. Photograph No. 2 was taken ten days subsequent to the planting of the grafts, showing them alive. I have also used skin grafts as a therapeutical agent in smothering out malignant growths of the orbit and of the lids. This treatment I introduced to the profession about twenty years ago in an article published in Dr. Rumbold's Medical Journal of St. Louis.

In conclusion, I wish to call your attention to the operation which up to the present time has given the most satisfactory results in that serious deformity—congenital ptosis—where there is an entire absence of the levator palpebrae superioris. The operation was introduced by Dr. Panas of

No. 3.

No. 4.

No. 2.

No. 6.

Paris, he was practising this operation at the time I was with him in the winter of 1888.

The steps of the operation are as follows: First make a deep longitudinal incision through the upper part of the lid nearly an inch long going through all the tissues into the periosteum, the incision curving slightly upward. Then make two curved vertical incisions, starting near the margin of the lid nearly an inch long the inner four or five mm. from the inner canthus and the outer about the same distance from the outer canthus. These incisions only extend through the skin to the tarsal cartilage and approach each other as they reach the upper part to intersect with the horizontal incision, thus making a tongue about four or six mm. wide. Then another curved longitudinal incision with the curve upward is made about an inch long just at the upper edge of the eyebrow, through the periosteum. The bridge between the two longitudinal incisions is liberated and the tongue of the lid drawn up under this bridge and fastened to the upper edge of the superior longitudinal incision by three silk sutures. If these three sutures cause much ectropion, the latter can be corrected by placing two sutures one at each side through the tarsus and bringing them out and fastening them each at the respective ends of the upper longitudinal incision, as indicated by drawings (Figs. 3 and 4). These sutures should be left six or seven days until the tongue is thoroughly fastened to the integument above. Photograph No. 6 that of the lids ten days subsequent to the operation. This operation was made March 1, 1902, and the photograph (6) was taken March 11, 1902. Sometimes it is advisable in ptosis to perform canthotomy, which is done by incising the orbicularis at the outer canthus; that is, extending the outer canthus thus increasing the palpebral aperture. The incision is made with strong, blunt end straight scissors and extends through the entire orbicularis muscle. Then the mucous membrane on either side and at the fornix is stitched by silk sutures to the integument, to prevent the incision closing. This establishes a permanent extention of the palpebral aperture and assists in correcting the entropion by relieving the constriction of the lid margin.

A FEW DAYS WITH A COUNTRY PRACTITIONER.

By W. L. Downing, M. D.

MOULTON, IA.

AFTER an uneventful journey of 150 miles by rail, the train slowed up at the depot where I was met by my friend, whom I had not seen for sixteen years. He was somewhat older than when I knew him as a classmate in medical college, but looking much more of a man. Now, as then, he appeared a perfect type of health for one of his age and build.

A short walk to his residence and I was introduced to his family, consisting of his wife, and their daughter and son, of twelve and seven years respectively. In visiting with the children I was shown the picture of a bright-eyed little girl of eight—their sister—and informed that she had fallen a victim to that dread disease, diabetes, after an illness of six months, a little less than a year before.

A few minutes rest and I was invited into the dining-room, by the way, the most important room in the house, judging by its size and furnishings, where I partook of the many good things prepared by my hostess. Everything was neat, well cooked and inviting. Seemed to me I never did eat with such relish before in my life. In fact I very soon found myself uncomfortably full, to say the least. I ate with what we city physicians choose to call "a coming appetite." I'm not sure that an apology would be in order here for this seeming breach of politeness, because I think most any of you would, perhaps, have acquitted yourselves in like manner, had you the same opportunity, besides I started before breakfast and did not arrive until high noon.

Should you wish to get on the best side of the women—oh, I mean to stand in with them—and I assure you from an experience of several years, that doctor's wives are no exception to the rule—you must not mince around the outside of their tables groaning with good things to eat, but, without ceremony, proceed, as I did to put yourself on the outside of a considerable amount of all the good things at your disposal. Should you fail to do this you might discover, to your own sorrow, that you are soon not quite so welcome as at first thought. To put it in other words, I would have you remember that women, as a class, are *very sensitive* along this line, and should opportunities like these confront you, you must always conduct yourselves accordingly.

Dinner over, I soon found myself behind my friend's laboratory, which was a part of his private office Here was a fine microcsope with triple nose piece, iris diaphragm and abbe condenser, centrifuge, test tubes, chemicals, hemoglobinometer, blood count and all such other apparatus as any up-to-date practitioner might need for such work, and while all was neat and clean, gave evidence of use.

A library, consisting of 150 to 200 volumes, by standard authors, and up-to-date, showed plainly that my friend was his own surgeon, gynecologist, oculist and aurist. On his desk were the Journal American Medical Association, Clinical Review, Chicago; Medical Council, Philadelphia,

and Laryngoscope of St. Louis. Surgical instruments and such other apparatus as were necessary to equip a doctor's office in first-class style, did here and there abound.

A placard, in large letters, announcing office hours, hung conspicuously in the waiting-office, together with another, requesting the public to send all messages early each morning when possible.

The first patient for the afternoon was Mrs. N. "Dock, do you know, I've been as sick as the duece ever since I was here; I vomit the very first thing in the morning—just as soon as I wake up; sometimes its one, sometimes its five o'clock; and when its so early, I just keep it up all forenoon, nearly, the slickest, slimiest, nastiest stuff that you ever tasted, and then I have to spit so much. I don't throw up what I eat much. My husband says I've just got a cold and I'd better take quinine, but quinine makes me lots sicker. I'm *sure, he knows better;* he just simply wants me to get my mind off this sickness, that's all. He knows I haven't had my courses for three months, but thinks its because I run out in the cold so much. My husband is so kindy funny anyhow. I don't know whether he's like all the rest of men or not. I told him I'd just like to see him get in this fix once, then I know he'd know better how to sympathize with us poor women." The doctor said, "You ought to take very light food only, of which milk should form the basis; eat lying down, five times daily, remain lying for an hour; get a cool bath with frictions to the spine and limbs after breakfast each morning; take this medicine to keep your bowels open, don't work much; don't think you're going to be sick when you wake up, after eating, and when you get up, but think how you did when you were well, and try your very best to think and act that way and you will come back next time feeling much better."

At 1:40 p. m. a message from the Wabash announced the injury of one of its employes—run over by a loaded hand-car. Six men in a few minutes conveyed the injured to the doctor's office on a stretcher. I was given two hypodermics and asked to get ready for administration of ½ gr. morphia and 1-20 gr. strychnia, which I did, while my friend busied himself in making such other preparations as he deemed necessary. This done, I was asked to put the injured man under chloroform anesthesia, during which time all clothing was removed from head to foot. The doctor hastily but carefully examined all bones and joints, one by one, for possible fractures and dislocations. Upon coming to the left leg, comparison with mate showed considerable shortening; there was also inversion of the toe, together with considerable flattening of the hip at great trochanter. I was now asked to cease the chloroform and steady the pelvis by placing a hand on each anterior superior spine of the ileum, while my friend, after calling my attention to what we had heard Dr. Green say so many times relative to reduction of dislocations: "Put the bones as nearly as possible into the position they occupied at the moment of escape, keep up your extension, rotate the limb in the proper direction and drop it back gently into position." My friend lifted the limb, carried it heavily across its fellow, and gently rotating it outward, it readily dropped into position with an audible snap, heard all over the room. Now it easily lay alongside its fellow, like it in all respects.

At 4 p. m. the telephone rang out a hurried call six miles northwest —a confinement—with fluids already draining away. In a very few minutes we were on our way, as though shot from a small cannon. The doctor said, "I bought these horses over in Missouri last fall. They are western bred, half hambletonian, half brothers, sixteen hands high, weigh in same notch—1080 lbs., deep bays, as you see, closely coupled, white faces, white stocking leg behind, and are seven years old this spring. They were never hitched until a year ago, and virtually unbroken when I got them. They are a bundle of nerves, never fail me, have plenty of the staying quality; all you need to do is to keep your seat, hold on to your strings, and, like the Irishman who made the trip to New York by telephone, 'You'll soon be there,'" and we were in thirty-five minutes.

Immediately upon our arrival, we hastily proceeded to make our hands as aseptic as possible by means of three changes of soap and sterile hot water with bi-chloride of mercury, using the brush very freely. Upon examination found fully dilated membranes ruptured, head presenting in occipits-past position, but closely wedged under symphysis pubis and with history of pains bearing down heavily for an hour. Auscultation and palpation revealed the presence of a second baby. Here was a mother, twenty-four years of age, closely built, weighing less than 100 pounds, a multipara. The doctor having informed husband and wife of the conditions existing, remarked to me that "perhaps we should watch the progress for an hour more and should there be no advance of the head, which is very likely, we'll give her chloroform, apply the forceps and bring the head through the bony part, then allow nature to proceed naturally," which we did. Cord tied and baby removed; further examination revealed the second baby in separate amniotic sac, but with breech presentation which was easily converted into a head. A short lull and the new membranes were ruptured with first pain, and head now engaged in right accipity anterior position. Only a few pains were required to effect delivery. The moment the head came down and began to distend external soft parts, I was asked to make heavy pressure over the fundus and follow it down closely until placenta was delivered and uterus firmly contracted. The uterus failing to contract well, a hypodermic of ergotine together with 1-20 gr. strychnia was administered at once. The husband was instructed to scrub his hands well in soap and sterile water with 1 to 1000 bi-chloride night and morning and immediately after, sponge the wife well with similar solution from umbilicus to feet using all the soap needed; to use only sterile gauze as pads to catch the flow; to give her light food, such as one should take when lying in bed, also a good dose of epsom salts the second morning to unload the bowels, and every second or third morning thereafter, as needed; to put the babes to her breast every two hours during the day, if awake, and two or three times at night, and to give them plenty of water to drink and not feed them under any circumstances. The wife was to remain in bed, quiet, for two full weeks at least, and longer unless she felt that she was doing first-class, and now with further understanding that should *anything* happen or not seem right, it must be reported at once, we took our leave.

We were soon home again. Supper over, I was given a daily paper for half an hour, then the A. M. Journal, until I had scanned its pages somewhat carefully for the best that it contained, the remainder of the evening, before retiring, was spent in talking over our palmy days, the days when we were school boys in the same rural district; of how we boys, twenty to thirty in number, used to gather at his house Sundays, when his father was away preaching, and we would often spend the whole days without our dinners, lassoing and breaking the mules to ride; of how when away at literary college, a number of we boys planned to visit old Mr. Growl-about-everything's peach orchard one night after his bedtime. This particular orchard was about three hundred yards from the house and the old man had kept close watch upon it for some time. Peaches were getting somewhat scarce now, and all that remained were over in the middle of the orchard, and high up in the trees so that it was necessary to climb for them—the nicest and most delicious, saved especially for eating purposes. According to plans, my friend being tall and somewhat fleet on foot, was detailed to enter the orchard and make the search, while the rest of us were to keep watch. After a while he came upon one tree which seemed to be very full, as best he could see in the glare of the moonlight, but all were out of easy reach, and, in his effort to get them, he discovered that the body of the tree supporting them was somewhat frail, so he bends the top well down and carefully twists it off and presently came waddling out with the whole top, which easily proved to have a peck or more of the finest peaches you most ever ate. You know how it is, gentlemen, somehow or other the flavor is much more delicate and the fruit more delicious if it has been purchased when the old man wasn't in. Of how, when in Old Rush we boys used to play high-five or seven-up for all that remained of a "stiff;" of how some of us, upon discovering that our stiff had several teeth filled with gold, carefully dissected it all out, took it down to the city pawn-shop and realizing an easy handsome sum, blew the hole "bizness" in at first opportunity on our way home. Needless to say we didn't get home that Xmas to spend the holiday, but we did spend them in the city calaboose.

At 3 a. m. I was aroused by my friend who said he had just been called seven miles west in consultation; a woman eight months pregnant was flooding to death. Get into your clothes while I get everything ready and we'll be off.

We were soon on our way, and in an hour drove up to Mr. S.'s residence—met by a messenger who said our patient was momentarily expected to die. A glance revealed the fact that a most terrific hemorrhage had occurred—pale, pulseless, cool, clammy skin, with etxremities cold to the body, sighing respiration, etc. The head was at once lowered and foot of bed elevated. I was asked to administer 1-20 gr. strychnia together with ½ gr. morphia with atropiac 1-150 gr. There being plenty of hot water, my friend set to work by hypodermoclysis to fill the vascular system with deci-normal salt solution. As much as two to four ounces were injected in each place until a quart to one-half gallon was administered in this manner.

Soon flushing of the skin revealed capillary dilatation, and it was simply marvelous to see how quickly the vascular system drank up the salt solutino and fully as marvelous to observe the ready response of the heart and vessels generally—no pulse at the wrist as compared with one of 160 in thirty, and 120 in sixty minutes.

While the attending physician was awaiting our arrival, he carefully packed the vagina very full of iodoform gauze to restrain further hemorrhage; this it did quite well as hasty examination revealed dilation of os to size of pint tin cup with complete central implantation of the placenta. There now being no hemorrhage, the pains continuing, and patient rallying, it was decided to repack the vagina and await further dilatation. Abdominal palpation revealed R. O. A. position. We waited until dilatation was perhaps two-thirds complete, when the patient's hips were brought to the edge of the bed, upon a Kelly pad, the parts rendered as aseptic as possible, by use of green soap and hot water with 1 to 1000 bichloride, followed by alcohol, when my friend introduced his right hand into the vagina and with sawing motion of the fingers separated enough of the placenta from its attachment to the walls of uterus to admit of entrance of hand and arm into uterus cavity, whereupon he seized both feet and brought them well down, thus substituting foot for head presentation. The membranes were now ruptured, and by traction upon the feet, the child was brought well down until the opening made was packed tightly and all bleeding restrained. Strong traction was made during each pain and child delivered soon as possible, but still-born. The hand was then reintroduced, placenta detached, uterus irrigated with very hot saline solution and with heavy pressure after manner of Crede over fundus, the hand and placenta were soon expelled and uterus remained firm.

The necessary toilet to the parts and the changing of patient's bed and clothing having been attended to, the nurse was asked to adminsiter per rectum, one pint salt solution every eight hours, hoping to have it retained and absorbed; to give an abundance of fluids by the mouth, and only well skimmed milk as nourishment; to have foot of bed elevated until pulse dropped below 100. This done we made our departure rejoicing.

Scarcely had we gotten home, when a message came to again hurry into the country, this time sixteen miles. Cary B., a young man of 18, after slight malaise had a run of fever for two or three weeks, was much better for a few days and suddenly developed pain of cramping nature in region of right hip with disposition to lie toward right side, with right leg drawn up; abdominal walls fixed, slight nausea and vomiting; temperature which had been running low for a few days now jumped up somewhat, 100 to 101½, for five or six days; all above symptoms continuing, but somewhat intensified. There now began to show some fullness in neighborhood of cecum, extending up along outer border of ascending colon, which at this time fluctuated slightly; there was also some enlargement of spleen, together with ochre yellow stools of loose nature.

That this young man had enteric fever all this time, there was not much room for doubt, but what this sudden rise of temperature and this

new group of abdominal symptoms, just as he was about entering upon convalescence? Did they mean perforation of a Peyer's patch, due to ulceration, with resulting abscess, or were they due to appendicitis with perforation? We were inclined to hold to the latter opinion and acting upon this, the family were asked to get ready the following: To open up their dining-room, which was upon the south, large and airy with floors barren; to dust ceiling, walls and woodwork thoroughly and immediately, follow this with thorough scrubbing with 1 to 1000 bichloride, to air dry it and warm up to 80 degrees; to boil four gallons of water for an hour, turn at once into sterile stone jars, covered with nice clean sterile sheets well tied on and set out to cool; to have four gallons boiling; to get ready the necessary basins, towels, sheets, blankets, hot bricks, table, etc., and we would proceed to operate soon after dinner. The nurse was asked to give the patient a very thorough hot water and castile soap bath at once, to follow it immediately with 1 to 1000 bichloride. A large pad of sterile gauze was applied so as to cover entire seat of operation.

At 2 p. m. patient was anesthetized, seat of operation scrubbed well with green soap and 1 to 1000 bichloride, followed by alcohol. An oblique incision, three inches long was made directly over the most bulging part of the mass and immediately upon entering the cavity, pus of a strong fecal odor, to the amount of one to two pints welled out several inches. The cavity was now poured full of $H_2 O_2$, and after all bubbling had ceased was washed out well with Thiersch's solution.

Digital examination revealed the presence of a swollen perforated, gangrenous sloughing appendix with post-cecal abscess, this confirming our opinion. Entire cavity was now loosely packed with narrow strips of iodoform gauze, and over this large pad of sterile gauze and absorbent cotton, held in place by strips of adhesive plaster. Patient was not placed in bed, and sustaining no particular shock was left in care of the attending physician. On our way home, in answer to a query as to the probable outlook for the patient, the doctor said, "He'll undoubtedly lose all of his appendix and make a perfect recovery in from four to six weeks," and I have since learned that he did.

Upon our return home, was late at night, being very tired, we went to bed at once.

At 4 next morning, I was aroused by my friend, and asked to accompany him to a house on the edge of town to see an eight-year-old with a bad sore throat. The patient had complained only twenty-four hours. Before a good light we observed both tonsils swollen and projecting well into the median line; little cheesy masses lying about orifices of all their follicles, but easily brushed off; mucous membrane circumscribed; outside at angles of the jaws were quite a group of enlarged, tender lymphatic glands, well cemented together by inflammation of periglandular tissue, forming a mass the size of an English walnut to a hen's egg, temperature 100, pulse 120.

After a few moments consultation, the doctor said, "If we don't get membrane upon these tonsils in twenty-four hours, I shall be greatly surprised. You wait here, see that some boiling water is gotten ready, and

I'll return to the office get some antitoxin, and we'll give her 3000 units of XX."

He soon returned, and this amount was administered. He also brought an envelope which he said he obtained in Chicago a few months ago. "You see it contains this small tin box of blood serum mixture, this wooden spatula and wooden swab of cotton, enclosed in glass tube, open at both ends, but sealed up by these rubbers, which you know are mostly used upon medicine droppers, and this blank card for diagnosis culture, in suspected diphtheria." Before leaving, he removed the swab, rubbed it over both tonsils in such manner as to obtain all cheesy matter possible and with wooden spatula spread it over the surface of blood serum mixture as evenly as he could. Both swab and spatula were now burned. He closed box, sealed with small band of rubber, returned it to envelope and dropped it into his inside vest pocket, remarking that "Diphtheritic bacilli thrive best at body heat." At bed-time the envelope with its enclosed box was transferred to pocket of his night shirt, and thus it was cared for for twenty-four hours. It was now opened. We beheld a growth consisting of small round grayish white granular colonies. A slide and a cover-glass were prepared—upon cover-glass a drop of sterile water was placed, which was inoculated from the growth, spread out as thinly as possible, air dried and fixed by passing three times through an alcohol flame. It was now stained for five minutes with Loeffler's alkaline methylene blue, rinsed in water dried, mounted in Canada balsam and viewed under microcsope, thus confirming our diagnosis, and this almost by the time any membrane was present.

Further treatment consisted of administration of 2000 units of XX antitoxin every twelve hours, until temperature subsided and membrane ragged all over and dropping off rapidly, together with throat wash consisting of sat. sal. acid boric with H_2O_2 in proportion of 1 to 8 used every hour, with no water soon after; quick loose bowels and light diet. In six days all evidence of membrane had disappeared, and in nine days, bacteriological examination showing absence of bacilli, the patient was again allowed to mingle with the family.

And thus I might continue to enumerate case after case which I was permitted to see suffering with the various ailments that man is heir to, this of the eye, ear, throat, nose and chest, that of the abdominal, the other of the genito-urinary organs; all of interest—but I have chosen rather to speak only of those few which were of greatest interest to me.

If I have succeeded in presenting them in such a manner as will enable you to gather a few crumbs at least, then I shall feel repaid for the time and effort spent in their preparation. I thank you.

CONGLOMERATE CYSTIC KIDNEY—REPORT OF A CASE.

By J. F. Herrick, M. D.

OTTUMWA, IA.

THIS case seemed worth reporting because conglomerate cysts of the kidney are not very common, or at least are not often diagnosed. It may aid some one in detecting a like condition.

The patient, B. F., male; single; age 45; clergyman; native of Ireland, of good habits, had always been strong and healthy until the present illness, except for an injury, the result of a fall from a moving street car. The accident occurred in the spring of 1899. He was thrown to the pavement and rendered unconscious as a result of the fall. On being taken home he soon regained consciousness and complained some of his head and back, but especially of one knee, which was badly bruised. He was confined to the house for two or three weeks, principally on account of the knee. The recovery seemed to be complete. Eighteen months later, in the fall of 1900, he lost some weight, and complained of biliousness on a few occasions, but continued about his duties as usual. He made no complaint of any farther trouble at any time until I was called to see him January 20, 1901, at 10 p. m. Found him sitting in a chair, his head drooping on his chest, and the body perfectly limp; he was unconscious and was covered with cold perspiration. He had performed his usual duties during the day, but complained of being tired and ate very little. During the evening some visitors came in with whom he conversed until about nine o'clock, when he seemed sleepy, and they departed. He excused himself for not going to the door, saying he didn't feel well. He called for a drink of water, which he took with difficulty, soon falling asleep, as it was thought. On my arrival he was put to bed. Heat was applied to the extremities, which were very cold. The pulse was 80, large, but very soft and compressible. The heart's action was tumultuous. The organ seemed dilated and weak, and was with difficulty keeping up the circulation. The respiration was slightly sterterous. There was puffing of the right cheek and apparent paralysis of the right side of the body. The eyes were fixed, but were covered by the lids. The pupils, of equal size, and slightly dilated were little affected by the light. The face was pale and as stated above, the entire body was covered with a cold perspiration. There was no swelling, puffiness or dropsy of any part. Altogether there was a condition of apparent profound collapse with the addition of unconsciousness, stertor, paralysis of the right side of the face and body, with rigidity of the left. Under the conditions, in the absence of any history of disease, the suddenness of the onset, and to me, somewhat contradictory symptoms, I was at a loss for a diagnosis.

In about five minutes after he was put to bed the left arm and leg began to show some signs of agitation, being moved about restlessly while the right remained quiet. In half an hour the agitation and twitching of the left side was greater, but when spoken to he seemed partially conscious.

He was given 30 grains bromide of soda by the mouth. In a short time he fell into a quiet sleep from which he awaked in an hour much brighter and apparently better in every way. By morning he was bright,

and to all appearance in a normal condition, except that when left alone he would doze all the time.

At this time, on examination, the urine was found to be excessive in quantity, about four quarts in twenty-four hours, sp. gr. 1005, neutral in reaction, very pale and containing a trace of albumen; no casts, no pus nor other abnormal constituents; no abnormalities were discovered on physical examination. A probable diagnosis of contracted kidney was made. In three days the patient was out and about town. He was given very little medicine at first, but after the first two weeks he took glycozone after meals to correct any fermentation in the alimentary canal, on the theory that the products of fermentation in the bowels and sub-oxidation in the tissues may be somewhat responsible for sclerosis of the kidneys. The diet was principally milk. All meat, coffee, tea and stimulants were cut off. Under this regimen there was decided improvement in the urine. The quantity was lessened by one-half. Sp. gr. 1010; thirst was lessened and the patient improved generally. On about April 1st he called on a specialist in urinalysis in this city, Chicago, who reported as follows: Quantity excessive, sp. gr. 1010, some epithelial cells, a few hyaline casts, no pus no albumen, no other abnormal constituents. At a later date another physician of this city reported considerable albumen and some pus cells in the urine. He also reported finding a tumor in the reigon of either kidney, which "appear to be enlarged kidneys." He spoke of the left mass being quite nodular; but in his communication to me ventured no diagnosis. This physician later made an effort to secure a skiagraph of the kidney region with the thought that probably stone might have something to do with the condition. There was no success. During the spring and summer the tumors continued to grow and to become more nodular. On the discovery of the tumors I gave up the idea that it was a case of contracted kidney and finally made the diagnosis of conglomerated cysts.

Nothing new appeared in the case, except that there was a slow failure until about two weeks before his death, when he began to fail more rapidly. About one week before death a slight diarrhea set in. I knew nothing of it for a few days, until Friday, August 16, 1901. At that time he complained of a mild diarrhea, weakness and sleeplessness. Some mild astringent checked the diarrhea, and a few hours sleep was secured that night, Saturday, August 17, he complained only of weakness. Sunday he only partially fulfilled his usual duties. That evening he began to be more or less stupid. Monday he slept all the time, but could be aroused. Tuesday afternoon, August 20, the stupor became profound. He died that night at 2 a. m., just seven months from the first attack.

A very limited autopsy was permitted. Nothing abnormal was found except in connection with the kidneys. The supra-renal glands were about twice the normal size. Both kidneys were a mass of cysts. The cysts ranged in size from a millet seed to a crow's egg. I judge the kidneys would weigh about four pounds each. The right was more prominent anteriorly than the left, but not so broad latterly.

No normal substance could be seen, just a mass of cysts packed together, like a dense bunch of grapes. The pelvis of each kidney was dilated so as to grasp the enlarged kidney. Not being permitted to remove any of the substance, I can say nothing as to the minute anatomy of the mass.

REPORT OF CASES TREATED WITH ROENTGEN RAYS.

By Wm. Allen Pusey, A. M., M. D.

CHICAGO.

Professor of Dermatology in the University of Illinois.

TUBERCULOSIS OF THE SKIN.

Case I. Referred to me by Prof. H. B. Favill of Rush Medical College. Woman, age 38, with extensive lupus involving the chin, cheeks and neck, of four years' duration. Healed with healthy, soft, white scars after five months. This patient has been well now a year and a half and shows no sign of recurrence. This case was reported in detail in the Journal of the American Medical Association, of December 8, 1900. (Fig. 1 and Fig. 2).

Case II. Referred to me by Prof. A. J. Ochsner of the University of Illinois. Lupus of the nose in a girl sixteen years old, of two years' duration. Healed with healthy scars after five months. Practically no deformity. This patient has been well for a year, and there is no evidence of recurrence. The case was reported in detail in the Journal of the American Medical Association, September 28, 1901. (Fig. 3 and Fig. 4.)

Case III. Lupus Hypertropicus. Mrs. A., age 38, fifteen years married, was referred to me in March, 1901, by Dr. A. E. Matthaei. She has never had a serious illness except vesical calculus and cystitis seven years ago, which were relieved by operation, and has never had any sort of skin eruption, except the one on her chin. Her history gives no suspicion of syphilis. She has four healthy children living and has had one miscarriage of a healthy fetus between the third and fourth months. Her family history is without significance, except that her father died at the age of forty-nine of chronic lung trouble. The patient is spare built and not very vigorous looking, but there is no organic disease.

When she came to me in March, 1901, there were two hypertrophic patches, one on the tip of the chin, the other under the chin, which are well shown in the accompanying photograph (Fig. 5). These consisted of closely set groups of waxy, glistening, almost translucent tubercles which at a distance looked very like patches of zoster. The first patch to develop, the one under the chin, appeared about seven years ago as a pin head size lesion, around which other lesions gradually developed. This patch was cut out, but recurred in the scar, and two years later the group of lesions appeared on the tip of the chin. Since that time the disease has persisted in spite of treatment and gradually increased to its present condition. The scar in the center of the patch under the chin, resulting from the previous operations, produced a similiarity in appearance to syphilis which was confusing.

The case was first shown by me in March, 1901, at the Chicago Dermatological Society, as a case of hypertrophic lupus. There was then a difference of opinion between hypertrophic lupus and tubercular syphilide.

The case was afterward shown at the American Dermatological Association, where most of the members, I believe, agreed in the diagnosis of hypertrophic lupus. The microscopic findings were not conclusive, and in

Fig. 1. Case I. Lupus, May 8th, 1900.

Fig. 2. Case I. November, 1900.

Fig. 3. Case II. Lupus, October 1st, 1900.

Fig. 4. Case II. March 16, 1901.

order to exclude syphilis, the case was for two and a half months put under full doses of iodides and mercury and mercurial ointment locally. This treatment had no effect.

After the failure of mixed treatment, the case was put under daily X-ray exposures in June, 1901. The effect was not prompt, but after two months considerable erythema was produced, which was accompanied by marked shrinkage of the lesions. The exposures were continued until August 26, with the production of an acute dermatitis, and by this time the tubercles had shrunken until the surface was flat. The dermatitis was curiously enough confined sharply to the diseased area. Since their first disappearance, seven months ago, there has been no recurrence of the disease. The areas are still red from exposures which the patient has recently had. The only scarring is that which existed before treatment with X-rays was begun. The present condition is shown in the accompanying photograph (Fig. 6).

CASE IV. I have under treatment a fourth case of lupus which I have not cured. It is a very severe case of at least twenty-five years' duration in a woman 41 years old. She had had all sorts of treatment, and in October, 1898, the diseased area was removed and a plastic operation for the restoration of the nose and the central part of the face done. The disease recurred in the scar and has since involved the nose and all of the parts around. The nose has been almost entirely destroyed since the recurrence. The disease, which has been under treatment more or less constantly for a year, has not spread in that time, which is in marked contrast to the history of the previous year, but it has not been eradicated. The result thus far in this case is similar to those reported by Finsen in cases where the disease has recurred after plastic operations. I have recently treated her much more vigorously than ever before, with very considerable improvement in her condition, and in view of this and the fact that we have succeeded in stopping the spread of the disease, I still have hopes of curing her.

I have had under treatment two other patients who were thought to have cutaneous tuberculosis and who have gotten entirely well while having X-ray exposures. The diagnosis, however, in neither of these cases was fully established and both patients had other treatment besides the use of X-rays, so that in my opinion they are not entitled to consideration in this connection.

The results obtained in cases one, two and three are, I believe, as good as can possibly ever be hoped for by any method. There has been no destruction of healthy tissue in getting rid of the disease and less scarring could not possibly remain after disease as extensive as these cases had. The scars are white, soft, pliable and, indeed, in cases two and three are hardly to be called scars. As to the permanency of the results, case one has been well eighteen months, case two, twelve months, and case three, six months, and none show any evidence of recurrence. But grant that recurrences should take place, there is every reason to suppose they can be controlled by the same method without scarring or pain. When one contrasts such results with those obtained by former methods of treatment and remembers the endless routine of pain that the patients suffered in treatment, the fact that this treatment is painless becomes no small consideration.

EPITHELIOMA.

CASE V. Referred to me by Prof. John L. Porter of the University of Illinois. Woman, age 68, with extensive epithelioma of shoulder of fifteen years' duration. The disease entirely disappeared April, 1901, after two months and a half of treatment, with the formation of healthy scars. There is no evidence of recurrence after a year. (Fig. 7 and Fig. 8.)

This case was reported in detail in the Journal of the American Medical Association, September 28, 1901. Since that time Dr. Ludwig Hektoen, professor of pathology in Rush Medical College, has very kindly examined my slides from the case and given me the following opinion: "I have examined the sections from Mrs. C.'s shoulder, both yours and those

Fig. 5. Case III. Lupus Hypertrophicus. June 1st. 1901.

Fig. 6. Case III. September, 1901.

from 1894, and in my opinion there is no question as to the correctness of the diagnosis of carcinoma (roden ulcer)."

The histological character of the scar tissue is shown in the accompanying photo-micrograph (Fig. 9) of a section of tissue taken from the shoulder at the site of the largest ulcer.

CASE VI. Mrs. T., age 68, referred to me by Dr. Martin F. Engman, of St. Louis, late house surgeon New York Skin and Cancer Hospital. The history of the case is as follows: Twelve years ago a small nodule developed upon the ala nasi, which ulcerated and was removed, but soon recurred. In the last ten years the lesion has been treated by almost every plan short of complete ablation of the nose, but always with prompt recurrence. In the summer of 1900 she consulted Dr. Frank Hartley of New

York, who advised a plastic operation, but she declined further operative procedures.

The condition at the time she began treatment with X-rays is indicated in Fig. 10. There was an ulcer occupying almost the entire right ala nasi and spreading down on the cheek. A similar small ulcer was on the left ala, and between the two was an area of scar tissue, the result of previous treatment. The ulcers were typical epitheliomas in appearance; deep, with rolled, pearly borders, and fed by numerous dilated capillaries. The disease was evident within the nostrils and the walls of the nostrils were of almost papery thinness. The septum was involved and probably

Fig. 7. Case V. Cutaneous Carcinoma, Jan., 1901.

Fig. 8. Case V. May, 1901.

also the nasal bones. The ulcers bled frequently and profusely and were the source of much pain. Altogether the case seemed, both to Dr. Engman and me, to present as unfavorable conditions for cure as possible.

Judging from the treatment she has had, no one has ever made any other diagnosis than epithelioma, and bearing in mind the ulcers, which were perfectly characteristic, the course of the disease, the age of the patient, and the condition of her skin, which showed at various points patches of senile keratosis, I think that there cannot be the slightest uncertainty as to the diagnosis of epithelioma.

She was put under daily exposures to X-rays April 26, 1901. By the 10th of May the borders of the ulcers were shrinking, some healthy epithelium was beginning to grow out from the edges and the discharge was greatly lessened. By June 5 the ulcer on the left side of the nose was

healed with a healthy looking scar. By the middle of June the ulcer on the right side of the nose was reduced to the size of a wheat grain. This lesion, at the point where the ala nasi was perforated, was slow to heal and the treatments were carried to the point of producing acute dermatitis, so that by August 8 the exposures were stopped on this account. Af-

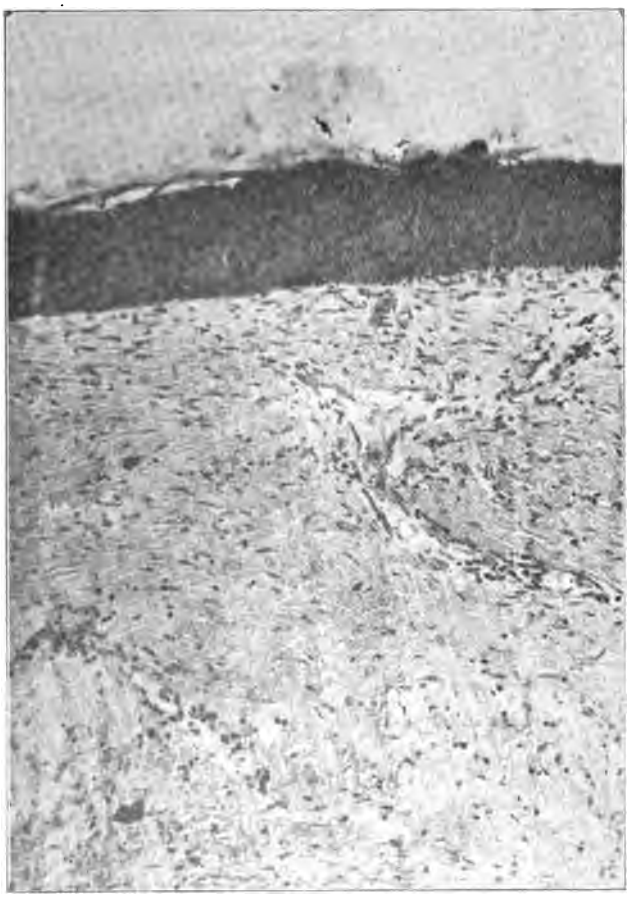

Fig. 9. Section of tissue taken from site of cutaneous carcinoma in Case V, showing healthy scar tissue and smooth epidermis.

ter stopping the exposures, the dermatitis increased until the exposed surface was denuded of epidermis. This healed in about ten days and at the same time the last trace of the ulcer on the right side disappeared. Since that date, over six months, the scars have remained in a healthy condition. The condition then and since is shown in Fig. 11. She has had expo-

sures from time to time subsequently with a view to destroying any undiscovered remnants of the disease. As far as can be told, there is no disease left. There is still some tenderness and at times there is some bleeding from the inside of the nose. On December 19 I had Dr. T. Melville

Fig. 10. Case VI. Cutaneous carcinoma, April 26, 1901.

Fig. 11. Case VI. August 20, 1901.

Hardie of the University of Illinois examine her and he kindly gave me the following report:

"The general appearance of the mucous membrane covering the septum and the external wall of the nostril is that characteristic of atrophic rhinitis. The membrane is in nearly every place thinner than normal and

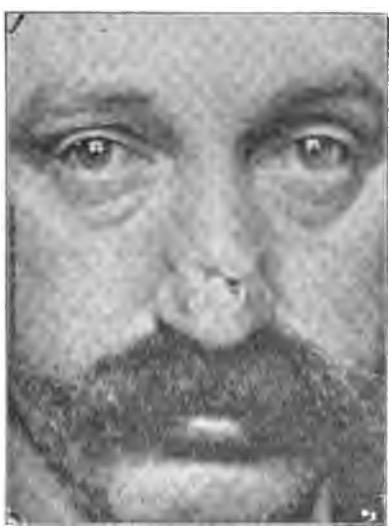

Fig. 12. Case VII. Cutaneous carcinoma, May 23, 1901.

Fig. 14. Case VII. September, 1901.

there are numerous spots where there is present a slight dried oozing of blood, which follows the removal of the crusts of dried mucus. This condition is more obvious in the right nostril, but this is the case partly be-

Fig. 13. Photomicrograph of Case VII.

cause of the partial obstruction in the left nostril caused by a deflection and ridge of the septum."

"The right inferior turbinated bone is smaller than normal, the atrophy having extended to the bone, besides affecting the mucous membrane covering it. The anterior end of the middle turbinated body is enlarged and the mucous membrane covering it is atrophic. Careful examination disclosed no ulceration in the nostril and no infiltration, the only irregular

feature of the diseased portion being the over-red color of the mucous membrane of the floor and the inferior turbinated body. The nasopharynx also exhibits atrophy of its mucous membrane and bleeds when the crusts of dried mucous are forcibly disturbed."

Fig. 15. Case VIII. Cutaneous carcinoma, November 5, 1901.

Fig. 16. Case VIII. February 1, 1902.

As far as can be judged, therefore, both from the internal as well as the external conditions, this case is free from carcinoma.

CASE VII. Healthy man, age 38. A year ago an indurated nodule appeared on his nose at the site of a previous wart, which ulcerated and spread rapidly. In May, 1901, he came to my clinic at the College of Phy-

Fig. 17. Case X. Cutaneous carcinoma, November 14, 1901.

sicians and Surgeons. The condition at that time is shown in Fig. 12. There was an ulcer involving the tip of the nose the size of a five-cent piece. Sections taken from the borders of the ulcer confirm the diagnosis of epithelioma, Fig. 13. It was an epithelioma beginning deep in the subcutaneous tissue, showing many pearls and of rapid growth.

He was put under X-ray treatment on the 23d of May, and was given exposures more or less regularly for two and a half months. There was a healthy scar by the 15th of September. His condition since that time is shown in the accompanying photograph (Fig. 14).

Fig. 18. Case X. January 8, 1902.

CASE VIII. Healthy man, age 73, referred to me November 5th, 1901, from the Illinois Eye and Ear Infirmary, for treatment of the ulcer shown in Fig. 15. This was a sharply punched out ulcer in the right nasal furrow the size of a little finger nail, with raised waxy borders, profuse blood supply, and painful. The disease began about two years ago in a warty

Fig. 19. Case XI. Cutaneous carcinoma, Dec. 14, 1901.

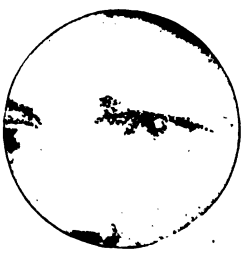

Fig. 20. Case XI. Jan. 27, 1901

growth, which bled easily. In July, of this year, it ulcerated and assumed its present condition. I got no section of it, but it was in appearance a typical epithelioma, and I believe there is no doubt of the diagnosis. The result is shown in the second photograph (Fig. 16). There is a smooth, soft, white, healthy looking scar, without induration.

CASE IX. Man, age 75 years, referred to me by Dr. Norval H. Pierce, surgeon to Illinios Eye and Ear Infirmary, on November 5th, 1901. About eleven years ago a small growth developed on the inner surface of the auricle, near the meatus. This gradually became larger and during the past two years has been the source of considerable pain. He made no effort at treatment until the summer of 1900, when he went to the Illinois Eye and Ear Infirmary. The ulcer was there recognized as an epithelioma, and during the summers of 1900 and 1901 he was treated at the Infirmary, whence he was referred to me by Dr. Pierce. The sections taken at the Infirmary were examined by Dr. E. V. Brown, Assistant Pathologist, who made the diagnosis of epithelioma.

Fig. 21. Case XII. Carcinoma of the orbit, Dec. 14, 1901.

Fig. 23. Case XII. March 15, 1902, showing the entire disappearance of the carcinoma, with a small surface of healthy granulations not yet covered with epithelium.

When the patient came for X-ray exposure there was an epithelioma which involved the circumference of the auditory canal for its external one-third inch and the entire inner surface of the concha, and had spread for half an inch upon the cheek in front of the ear, the tragus having been entirely destroyed. In the last few months it had gotten worse rapidly. He was put under X-ray exposures November 5th and given them daily to December 5th, 1901, when some erythema developed and the ulcer began to heal. The sittings were nevertheless continued to January 25th, 1902, when there developed marked congestion of the exposed area. This has gradually subsided, and with its subsidence the ulcer healed. Until a few days ago there remained an ulcer about half the size of a little finger nail,

which rapidly diminished in size. This has healed and the entire site of the epithelioma is now covered with healthy skin. Were the tragus not missing, it would be hard to discover that an ulcer had existed. The side of the head has been entirely free from sensitiveness or pain since about two weeks after beginning treatment.

CASE X. Mrs. W., age 61, was referred to me by Dr. M. F. Engman, of St. Louis. About twelve years ago a lesion developed on her forehead above the right eye which was recognized as an epithelioma. Two

Fig. 22. Photomicrograph of Case XII.

years ago it had developed into an ulcer the size of a half dollar, and in November, 1899, she went to Dr. William T. Bull, of New York City. Dr. Bull has kindly given me his memoranda of the case, as follows: "Circular ulcer of forehead in center and reaching to eyebrows as large as a fifty cent piece. Edges slightly elevated and hardly movable. This appeared first ten years ago as an indurated nodule and was destroyed by caustics. It reappeared and was cut out three times—the last time four years ago. At operation (Dr. Bull's) the ulcer, with a wide margin of skin, was removed and the raw surface covered with four skin grafts.

Healing was complete in three weeks. Dr. Dunton, 33 East 33d St., examined the tissue removed and pronounced the growth an epithelioma. After Dr. Bull's operation the scar remained healthy until September, 1901, when two small ulcers developed in the border of the scar.

The condition when she came under my care, November 14th, 1901, is shown in the accompanying photograph (Fig. 17). On the forehead, above the left eye-brow, there is a white, healthy looking scar, 2x2 inches, which is not movable. On the external border of the scar there were two small ulcers, one at the upper outer angle the size of a little fin-

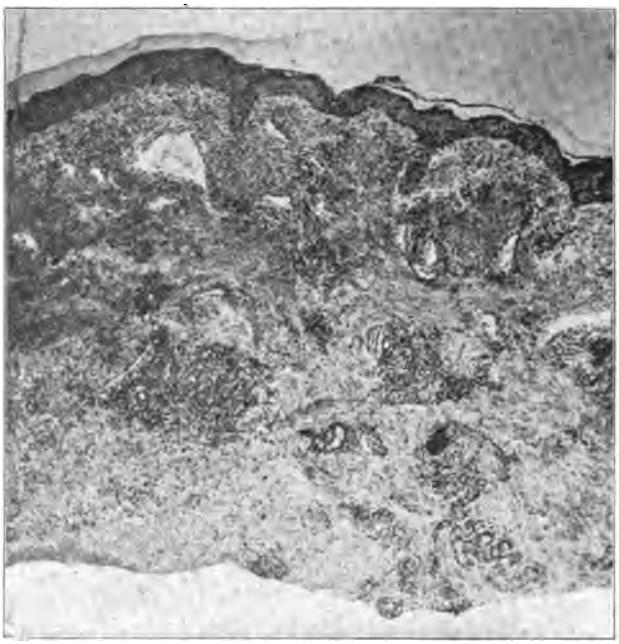

Fig. 24. Case XII.—Photomicrograph from a section of tumor in stage of subsidence, showing disappearance of carcinoma tissue and the existence of a degeneration product in place of the previous masses of epithelium.

ger nail, the other at the lower outer angle somewhat smaller. Both had raised, hard, pearly borders, had numerous dilated capillaries around them, and presented the picture of typical small epitheliomas. The upper half of the inner border of the scar was occupied by a red indurated scaly patch an inch long by half an inch broad, around which were numerous dilated capillaries. This presented the picture of an inflamed patch of senile keratosis undergoing degeneration into epithelioma.

She was given exposures daily over the patch and over the ulcers until the lesions became somewhat inflamed, and afterwards the dermatitis was kept at this stage. By December 8th, 1901—approximately a month—the

ulcers were healed, and by January 8th, two months—the induration hap entirely disappeared. The skin was smooth, but quite red from the X-ray effects. The condition since that date is shown in Fig. 18. The skin at the site of the ulcers is smooth, perfectly soft and free from induration. The site of the patch of verruca senilis on the inner border of the scar is still slightly red as a result of the exposures, but it is smooth and soft and the induration has entirely disappeared.

CASE XI. Lady, age 50 years, the wife of a physician, who referred her to me. Five years ago the disease began as an indurated tubercle near the inner canthus of the left eye.

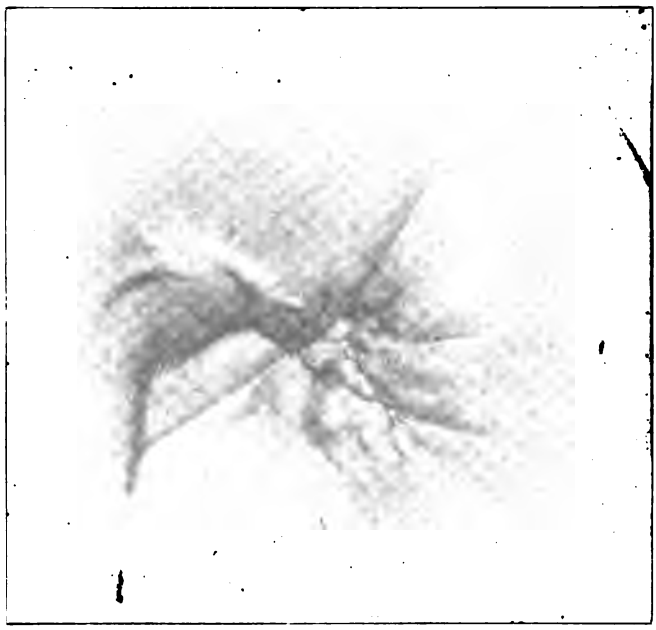

Fig. 25. Case XIII. Recurrent carcinoma of the breast, July 18, 1901.

Its condition, when she began treatment, is shown in the accompanying photograph (Fig 19). The disease involved an area on the side of the nose and around the inner canthus as large as a fifty cent piece. There are two ulcers in the area, one the size of a finger nail on the side of the nose, the other half that size at the inner canthus. The ulcers were sharply excavated, with elevated, rolled, nodular borders, and around them the tissue was indurated and waxy looking. It was a typical small rodent ulcer, such as is often seen in this location, but no tissue was gotten for examination. The result after two months of treatment is shown in Fig. 20. There is practically no scarring; the skin is white and smooth and there is no induration. It would be hard to say that any ulcer had existed. The case illustrates the ease with which lesions about the eye can be treated with X-rays.

CASE XII. Spare built man, age 35, referred to me by Dr. T. J. Knudson, from St. Luke's Hospital. Eleven years ago a small nodule appeared on the right cheek, below the eye, which gradually increased in size and after two years ulcerated. The lesion was treated from time to time by different surgeons in various parts of the United States. Four years ago he was admitted to Cook County Hospital in the service of Dr. T. A. Davis, of the University of Illinois. Dr. Davis did a radical operation, removing the ulcer and a large amount of the surrounding tissue and restoring the lower lid by an extensive plastic operation. At the end of the year the disease recurred in the scar and rapidly enlarged, involving the orbit. Last winter he was in Cook County Hospital in the service of Dr. Charles Adams. The disease had then attained such an extent that

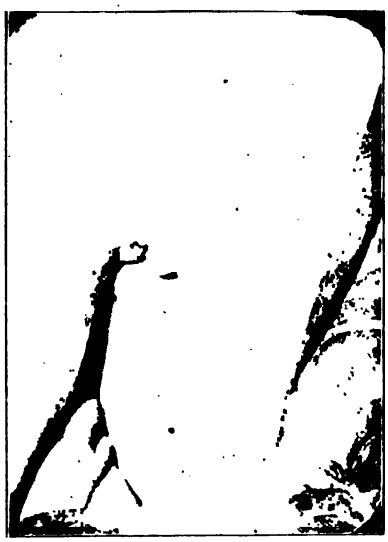

Fig. 26. Condition of Case XIII since November 8, 1901.

a radical operation was not undertaken. He recently went to St. Luke's Hospital, whence, after a few weeks' attention, he was referred to me by Dr. Knudson.

When he came to me the disease involved the entire orbit, the upper and lower lids, the side of the nose and the cheek. A shrunken atrophic globe remained, which was retracted deep in the orbit. Before undertaking treatment by X-rays, I had Dr. W. H. Wilder see him, and at my request Dr. Wilder removed the eye on December 5th. No attempt was made to destroy the carcinoma in this operation, and on December 14th he returned for X-ray exposures. The accompanying photograph (Fig. 21) does not adequately show the condition at that time. A photomicrograph of a section of the tissue taken from the lower lid is shown in Fig. 22 and confirms the diagnosis of epithelioma. At this time the patient was suf-

fering exquisite pain, which had not been relieved by removing the eye, and from anxiety, pain and loss of sleep, his physical condition was greatly reduced.

He was put under X-ray treatment December 14th and had almost daily sittings to January 27th. The exposures were carried to the point of producing erythema and slight desquamation, but no weeping. Within a week after beginning the treatment his pain had ceased and the discharge began to diminish. Since that time the improvement has been continuous. The borders and the nodules have gradually shrunken and

Fig. 27. Case XIV. Recurrent carcinoma of the breast, November 1, 1901.

the ulcer has become smaller, until the lesion remaining bears no longer any resemblance to epithelioma. The small surface still not covered by epidermis has the appearance of a healthy granulating wound. All surrounding tissue is smooth, soft, freely movable, free from induration, and almost unscarred. The present condition is shown in Fig. 23. There was so much superficial destruction of tissue that the formation of epidermis has not taken place over the entire surface. As shown in the photograph, there is still an area on the inner side of the orbit about the size of a nickel, which is uncovered by epidermis, but is still diminishing in size.

The patient has been free from pain practically since the beginning of the treatment and has entirely regained his health and spirits.

It is interesting to compare sections of tissue taken before the disease was put under X-ray treatment with sections taken while the tumor was subsiding. Fig. 22 is a section from the border of the ulcer before the treatment was begun; it shows abundant infiltration of embryonic epithelium. Fig. 24 shows a section taken from the same location when the tumor was subsiding. The carcinomatous masses are now replaced by a degenerated wavy substance without structure and staining a faint blue with hematoxylon. The contour of the epithelial cells has been lost and the cell nuclei have disappeared. There is evidently a degenerative process of some sort going on, but what it is cannot be said.

The above list of consecutive cases of epithelioma, and I believe all of them can be claimed as successful. That there will not be recurrences time alone can show, but from the character of the scars, I am willing to hazard the opinion that these cases will not show an unusual proportion of recurrences. And if recurrences do take place in situ, there is every reason to believe that their management would not be troublesome. I do not believe any other method of treatment can show such results in epithelioma as some of the above. Take for example, Case No. 6 and Case No. 12; the results are unique. Case No. 12 was beyond relief by any other method. That the ulcer in his orbit should have filled up and healed over with healthy skin would not be regarded as possible were the patient not demonstrable. Such a result in such a case is, I believe, entirely unique.

My experience in epitheliomas is such as to give me great confidence in the method. I have had no case thus far in which the disease failed to yield, and usually yield promptly. The scars are soft, free from induration, smooth, and of the color of the normal skin or white, and absolutely healthy looking; indeed, there is almost no scarring.

CARCINOMAS OF THE BREAST.

CASE XIII. Mrs. K., age 48. Six years ago she had an operation by Prof. E. C. Dudley, of Northwestern University, for laceration of the cervix, and her general health has been bad for several years, with complete nervous break down, but without demonstrable lesion. In 1899 a tumor developed on her right breast, which was recognized as a carcinoma, and in April, 1900, was removed. Recurrence became evident in the scar six months after removal, in the fall of 1900. Eight months later, in July, 1901, she began X-ray exposures; in the meantime, in the spring of 1901, she had been seen by Prof. Christian Fenger, of Rush Medical College, and the case pronounced inoperable. The condition when she came to me is shown in the accompanying photograph (Fig. 25). The skin and subcutaneous tissue for an area six inches in diameter around the center of the scar was dense, hard and waxy looking and infiltrated with carcinoma. In and around the center of the scar there was a group of waxy looking nodules, which were for the most part denuded of epidermis and at points ulcerating. The arm was greatly swollen and tensely edematous down to the fingers.

The case was put under daily X-ray exposures July 18th, 1901, and by August 15th marked dermatitis had been caused over the entire exposed area, and a bulla had formed over the center of the tumor. The treatment had been as vigorous as I dared, because it seemed evident if anything was done it had to be done quickly. This effect disappeared by September 2d, when the entire surface became covered with epidermis. At the same time there was a very marked shrinking in the nodules, and the edema entirely disappeared from the arm. With the exception of an interval of six weeks, when she was acutely ill, the patient had treatment regularly from September to date. An acute dermatitis was again set up in the latter part of October, but since that time the exposures have not been carried to the point of producing an acute effect. On November 8th I made the following note: "The dermatitis has entirely disappeared; the skin is of normal color except for some pigmentation around the periphery of the exposed area. The tissue, where the tumor existed, is smooth, and it is impossible at present to find any evidence of carcinoma in this area. All of the nodules have entirely disappeared." The chest wall has remained in this condition since November 8th. The condition at the present time is shown in the accompanying photograph (Fig. 26), for which I am indebted to an amateur photographer. As far as her attending physician, who is an exinterne of Cook County Hospital, and I can ascertain, there is no evidence of carcinoma left in the breast or shoulder. There has been no return of the edema in the arm. The right arm is slightly larger than the left, but there is no pitting or pressure, and it is not in the slightest degree edematous. The increase in size is, I believe, a permanent connective tissue hyperplasia, due to the long continued lymphatic obstruction and analagous therefore to an elephantiasis. The disappearance of the edema in this case is, of course, a highly instructive fact. This patient is not in good health, but what the character of her present trouble is, first-class men are unable to decide. Her present condition is in no way directly connected with her breast trouble and it cannot be traced to any metastasis.

Case XIV. Mrs. C., age 58, referred to me by Dr. C. C. Gratiot, of Shullsburg, Wis. The patient was in Dr. Christian Fenger's care in Passavant Hospital in July and August, 1900, and the following facts are taken from the hospital record, which Dr. Fenger kindly placed at my disposal: "Her present (July, 1900) trouble began about six years ago when patient noticed a little hard lump on the inferior aspect of the left breast on the axillary side. There was scarcely perceptible enlargement of the hard area until about two years ago, when the patient noticed a more rapid enlargement. She then consulted Dr. Sheldon, of Madison, Wis. At that time this growth developed very fast and broke through the skin and formed an open sore, which grew in dimensions until it is now the size of a silver dollar. Dr. Sheldon advised an operation, whereupon she consulted Dr. Fenger." Dr. Fenger removed the breast with the axillary and supraclavicular glands in July, 1900. A few months after removal the disease reappeared in the scar. She returned to Dr. Fenger last summer, but he found the case beyond operation. Her condition when she came to

me, November 1st, is shown in the accompanying photograph (Fig. 27). As seen in the illustration, there was a mass of carcinomatous tissue on the left side, involving an area of about a square foot. The nodules varied in size from a hazel nut to the size of a small apple. At the upper angle there were a couple of ulcers 2½ to 3 inches in diameter. Around the main mass and separated from it by distances of from two to three inches, or more, were numerous hazel nut size nodules. She had on two occasions suffered alarming hemorrhage from the surface. Dr. Fenger had thoroughly removed the glands in the axilla and above the clavicle, and no en-

Fig. 28. Case XIV. February 20, 1902.

larged glands in either of these locations were found. When she began treatment she was suffering a great deal of pain. She was so weak that a nurse had to bring her by easy stages from the nearest hotel for her treatments, and she was in every way thoroughly haggard and worn.

She was put under the X-ray exposures on November 1st, and the sittings were given daily for two months, and every other day or less frequently after that. Two weeks after the treatments were begun she volunteered the statement that her pain was gone: and she has had none since. On January 17th I made the following note: "There has been rapid sub-

sidence of the tumor going on for the last month. The improvement can be seen from week to week. There is at present only a slight superficial ulceration at one point about the size of a dime and one small nodule the size of a pea. The surface is free from infiltration and thickening and the redness has almost disappeared. The skin is considerably pigmented."

Fig. 29. Case XXX. Sarcoma of the neck, September 2, 1901.

Improvement has continued since that time. The condition at the present time is indicated in the accompanying photograph (Fig. 28). There is no evidence of carcinoma left on the chest wall. There is a thin, soft, brownish white scar, which is almost freely movable. Around the borders of the scar there are numerous dilated capillaries, the remnants of the previous abundant blood supply going to the tumor. It seems hardly credible that this scar represents the site of the previous tumor mass.

Her general condition has progressed equally well. As I said above, she has been free from pain since ten days after treatment was begun. Since January 1st she has been strong enough to come in alone three times a week for her treatments from a town thirty-five miles from Chicago. She has regained her appetite and has increased in flesh decidedly (10 to 15 pounds). Now she presents the picture of a healthy old lady.

SARCOMA.

CASE XXX. Man, age 24, referred to me by Dr. A. J. Ochsner on September 2d, 1901. This case was reported in detail in the Journal of the American Medical Association of January 18th, 1902. Briefly, his history is that in February, 1901, he noticed a hard swelling below the

Fig. 30. Case XXX. Since October 5, 1901.

angle of the jaw on the left side of the neck, which gradually increased in size, and in May, 1901, he noticed a similar hard swelling on the right side of the neck, which rapidly increased in size. In August, 1901, he consulted Dr. Oschner, at which time there were large, immovable diffuse swellings on either side of the neck, the size of a man's fist. Dr. Ochsner's made a diagnosis of sarcoma, and on August 19th removed the tumor on the left side of the neck. On September 2d he sent him to me for exposures to X-rays. At the time there was a healthy scar on the left side of the neck and a large swelling on the right side, as indicated in the accompanying photograph (Fig. 29). It was hard, diffuse, not movable, and the neck was almost rigid from interference with motion. Under a month's X-ray exposures this entirely disappeared, the result being shown in Fig. 30. Since that time the man has gained twelve pounds in weight, and on

the first of November wrote me that he had gone back to his work. There was no evidence of recurrence up to March 1st—five months—but on March 10th he writes me that the swelling is returning. I wanted to have him for further treatments after the first month, but he was unable to stay in the city. I have been extremely anxious to have him for further treatment, but thus far he has been unable to return.

As to the diagnosis in this case, Dr. F. R. Zeit, Professor of Bacteriology and Clinical Pathology in Northwestern University, has kindly given me the following report:

"My diagnosis of small, round cell sarcoma is based upon: First, the histopathology of the tumor; small, round cells, somewhat larger than red blood corpuscles, densely packed together, traversed by blood channels without walls, and the almost entire absence of stroma or connec-

Fig. 31. Case XXXIV. Keloids, December, 1900.

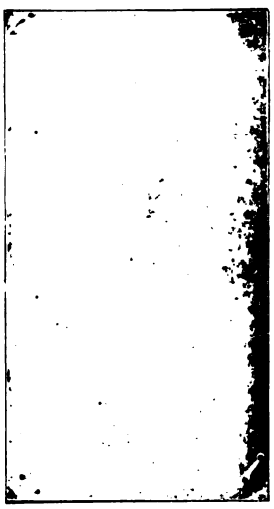

Fig. 32. Case XXXIV. Nov. 1, 1901.

tive tissue frame work; and second: The clinical description of Dr. Ochsner: A large diffuse, infiltrating and proliferating rapidly growing tumor in the neck, no inflammation, and which at no time was circumscribed or movable. No enlargement of other glands."

"I think this effectually excludes all simple hyperplasias, lymphadenoma, lymphatic leukemia, Hodgkins's disease (pseudo-leukemia.) This tumor was not produced by a progressive development of lymphadenoma from gland to gland, but started, no doubt, from one gland, and infiltrated by proliferation the surrounding structures at once."

KELOID.

CASE XXXIV. Boy, age 10 years, referred to me by Prof. D. A. K. Steele of the University of Illinois. The patient had a keloid form in his

vaccination scar and another keloid form upon a scar on the helix of his right ear. These were removed and promptly recurred. The keloid on the arm was a typical keloid, as will be seen in the accompanying photograph (Fig. 31). It was 2½ inches long, ¾ inch broad and ½ inch high. Each of the stitch scars showed a keloid about the size of a marrowfat pea. The keloid on the ear was a curious looking globular tumor an inch in diameter, purplish in color, with dilated blood vessels coursing over it and had grown rapidly. It bore in appearance a resemblance to a sarcoma.

The keloid on the arm was put under X-ray exposures in December, 1900, and proved entirely rebellious to daily sittings for a long time. It was not until after 80 sittings that any effect was produced. Then I car-

Fig. 33. Case XXXV. Hodgkin's disease, September 11, 1901.

ried the treatment to the point of producing a very acute dermatitis, which was followed by the formation of a superficial necrotic membrane. This healed over in three weeks, and after that time (September, 1901) the keloid rapidly shrank. It had practically disappeared by the 1st of November, 1901. The condition since that time is shown in Fig. 32. The entire keloid has disappeared except for a slight ridge down the center of the scar. I think that this has perhaps increased slightly since the exposures were omitted in November, so that I do not believe a successful result can yet be claimed.

It was interesting to note the sharp limitation to the keloid of the acute inflammatory process produced by the X-rays. There was erythema

in the exposed normal skin surrounding it, but this disappeared much more rapidly than the inflammatory process in the keloid. The disappearance of this keloid was due to absorption and not to necrosis. The only ulceration that appeared was the superficial membrane not thicker than parchment, but a mass of tissue disappeared about one-half inch in thickness.

In July, 1901, the treatment was applied to the tumor over the ear and after sixteen sittings (August 10) was carried to the point of producing dermatitis. After the development of the dermatitis there was a very perceptible shrinking in the size of the tumor. The treatment was

Fig. 34. Case XXXV Since November 1, 1901.

neglected by the patient until December, 1901, and since that time has been taken up in a desultory way. The growth has decreased very decidedly since the treatments were renewed, but there is still a tumor left about half the original size.

Keloids are scar tissue of such marked vitality that it would be expected *a priori* that they would not be affected by X-rays except by producing a reaction that would destroy any healthy tissue. And yet this keloid was certainly made to disappear without necrosis and without affecting the normal connective tissue. It was found in my first case of lupus that there was a great thinning and softening of the scar tissue in the neck, and this observation is a confirmation of that of other workers. There seems, therefore, to be some reason to hope that the method may be of use in attacking scars.

PSEUDO-LEUKEMIA.

CASE XXXV. Boy, age 4, referred to me by Dr. A. J. Ochsner. This patient was in the Presbyterian Hospital in May, 1901, in Dr. Fenger's care, and I am indebted to him for the hospital record from which most of the following facts are taken. The family history and the personal history prior to the development of the present trouble are without significance. The present trouble began in December, 1900, as small, hard swellings below either ear. The mother stated that every two or three days she could see more of the swellings appear. The swellings were symmetrical for about three months, when the right side grew larger. May 20, 1901,

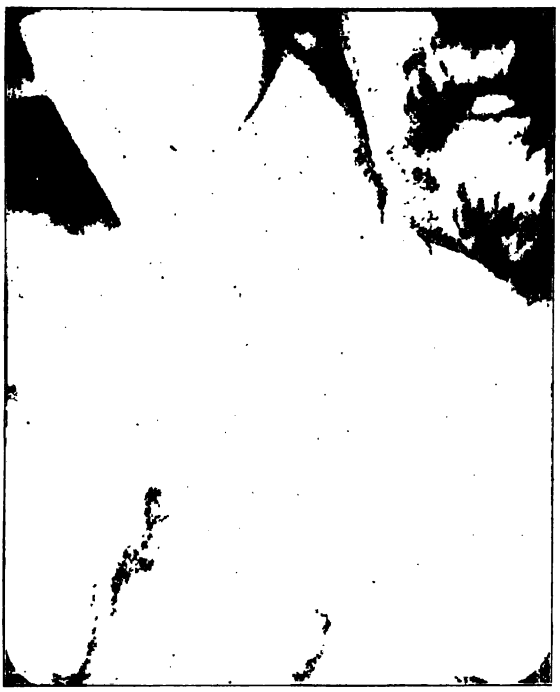

Fig. 35. Case XXXVI. Hodgkin's disease, December 18, 1901.

when the patient entered the Presbyterian Hospital, that following notes were made:

"Submaxillary, cervical and supraclavicular lymph glands are enlarged, hard, discreet. There are tense swellings, both anteriorally and posteriorally, especially on the left side of the neck. No other enlarged lymph glands found." The blood showed 4,300,000 reds and 10,000 whites. Hemaglobin 50 per cent.

Dr. Fenger dissected out two lymph glands in the neck, and "the pathologist's report states that there is no evidence of tuberculosis in the

glands and that the histology coincides with that of a pseudo-leukemia." The diagnosis of Hodgkin's disease was made and the patient discharged with a "statement to parent that little if anything can be done to relieve patient." In August, 1901, patient entered Augustana Hospital in Dr. Ochsner's service. The condition of the swellings at that time is indicated in the following note: "A large, irregular swelling on the right side of the neck, size of a small fist, extending from below and behind the right ear

Fig. 36. Case XXXVI. Since January 20, 1902.

to the clavicle. Numerous hard masses, varying in size from a filbert to an English walnut, can be felt. Small swellings of the left side of the neck about half the size of that on the right. The swellings are not tender, painful or red and are freely movable. No enlargement of liver or spleen." The diagnosis of Hodgkin's disease was made and Dr. Ochsner dissected out alarge mass of glands on the right side of the neck.

On September 11 he referred the case to me for exposures to X-rays. The condition is shown in Fig. 33. There was a healthy scar on the right

side of the neck and on the left side a swelling the size of a small fist, made up of a group of greatly enlarged glands. They were hard, painless and freely movable. These glands were put under exposures to the rays on September 11. In the course of a month erythema was produced and the glands rapidly diminished in size. At the end of two months there remained three or four small glands on this side of the neck which were quite soft and not larger than a filbert. Almost all the swelling had disappeared and the slight swelling that remained was as soft as adipose tissue. The case has been under desultory treatment from that time to this without change. The condition at the present time is shown in the accompanying photograph (Fig. 34). The general physical and mental condition of the patient improved very greatly. The number of red blood corpuscles is about the same as when the blood was examined May last. There is now 80 per cent hemaglobin, as against 50 per cent in May.

CASE XXXVI. Man, age 50, referred to me by Dr. L. L. McArthur. The patient had typhoid fever five years before, but aside from that had no serious illness since childhood. In childhood he had an attack of inflammatory rheumatism, otherwise his personal and family history are negative.

In April, 1900, he noticed a swelling under the right arm and another on the inside of the elbow. These gradually increased in size and in October, 1900, he consulted Dr. D. N. Eisendrath, who found in addition enlarged glands in the neck, in the other axilla, in the groins and along the side of the abdomen. The case was seen in consultation by Dr. Christian Fenger, who wrote to Dr. Eisendrath and agreed with him in the diagnosis of Hodgkin's disease. The diagnosis of Hodgkin's disease was also made by Dr. E. J. Dohring and Dr. M. L. Goodkind. The blood examination made at the time that Dr Eisendrath saw the case showed 80 per cent hemaglobin, 5,000,000 red corpuscles and 10,000 whites.

Previous to beginning treatment with X-rays the patient had for a long time been taking arsenic and for several weeks had been having parenchymatous injections of arsenic into the tumors. In spite of this treatment the glands had not decreased. The patient's general health had failed and he showed marked cachexia.

The size of the tumor in the right axilla when X-ray treatment began is shown in Fig. 35. It was about as large as a child's head and interfered seriously with the movement of the arm. The right epitrochlear gland was almost as large as a goose egg. Its vertical diameter was four inches and its transverse diameter about two and a half inches. Both of the glands were movable but densely hard.

At Dr. McArthur's suggestion I began daily exposures over the right epitrochlear gland November 19, while he continued the parenchymatous injections of arsenic in the axillary gland. By December 18 I had produced considerable erythema over the elbow and by that time the gland was reduced to less than half its previous size. In the meantime the axillary gland which was having injections of arsenic, showed no change. These injections were then stopped, and at Dr. McArthur's suggestion I began exposures, also over the axillary glands. The exposures over the

epitrochlear gland were continued and by January 1, 1901, all apparent swelling had disappeared and only a soft gland the size of a filbert was left. By January 7, after fifteen sittings, and upon the development of considerable erythema, the axillary gland had become quite soft and very much reduced in size. By January 20, almost all of the axillary swelling had disaeppared and the condition has remained the same since that date (Fig. 36). There is very slight puffiness at the site of this tumor, but it is as soft as the softest adipose tissue. The man's general physical condition has been greatly improved. Dr. M. L. Goodkind, who saw the patient after an interval of several months, particularly called my attention to the improvement in his general condition, which he characterizes as astounding.

The first case continued the use of protonuclein and the second arsenic, at the suggestion of their physicians, during most of the time that they had X-ray exposures, and that mitigates against the conclusiveness of the evidence in favor of the effect of X-rays in these cases. The fact remains, however, that in the case of the child the protonuclein had absolutely no effect on the glands before the X-ray exposures were begun, and in the case of the man the disease had progressed in spite of the vigorous treatment with arsenic.

It is also to be borne in mind that the tumors in pseudo-leukemia disappear spontaneously at times and act in the most erratic manner. Against this we have the fact that in neither of these cases after a year, and a year and a half, respectively, had any change shown itself, and no acute disturbance of health of any sort occurred at the time that these cases were under X-ray treatment to precipitate the subsidence of these glands.

LEUKEMIA.

I have exposed one case of splenic leukemia to X-rays. This case was a woman, age 50, referred to me by Dr. A. J. Ochsner. She had an enormous spleen. The blood examination showed 50 per cent hemaglobin, 3,000,000 reds and 300,000 whites. She was given X-ray exposures over the spleen for a month with no effect whatever. The exposures, however, were not carried to the point of producing any apparent effect on the skin and in my judgment the case shows nothing.

CONCLUSIONS.

As will be seen, I have not to report an unbroken series of successful cases treated with X-rays, but I believe the results attained are such as to give encouragement. For it must be borne in mind that the cases I report are of a character that will never allow of an unbroken series of successes. Excepting a few epitheliomas, the whole list represents cases which had baffled as skillful men as the country possesses, or had been passed upon as hopeless by very masters of the profession. A more unpromising group of cases could hardly be imagined. That even some of these cases have been controlled or had their progress stayed seems enough. Many of these cases when they came under treatment, had attained much more serious character than they had when first recognized as hopeless. When

such cases are put under the influence of X-rays sooner, is there not good reason to hope for a still better showing?

The cases are presented for what they are worth and each one will give them whatever weight he considers they are entitled to. One important fact I believe may be claimed as established, not only from these cases, but from the work of other men, and that is that X-rays have a destructive effect upon tissues of low vitality, and that this effect can be utilized under suitable conditions to cause the destruction of such tissues without destroying the involved healthy tissue.

My sections show that X-rays cause a degeneration, of some sort of carcinomatous tissue and a disappearance of carcinomatous tissue, presumably by absorption. This disappearance of carcinomatous tissue is followed by the formation of firm, healthy scar tissue. A similar process presumably occurs in the disappearance of the diseased tissue in tuberculosis, sarcoma and pseudo-leukemia. However it occurs, the fact stands that growths of embryonic tissues and other tissues of low vitality are made to disappear under the influence of X-rays without destruction of the involved healthy connective tissue; and such a fact is pregnant with possibilities.

The advantages of the method are:

1st. It is painless.

2d. It destroys diseased tissue, but leaves the healthy tissue in its place; therefore,

3d. It leaves small scars, and

4th. It can be used in cases where the surrounding healthy tissue cannot be sacrificed; that means that

5th. It is available for cases in which ordinary methods involve extensive operations and serious subsequent disfigurement, as for example about the eye and nose; and that

6th. It is available in cases in which ordinary methods are impossible because of the amount of destruction of tissue which complete removal would require; in other words, it is applicable to many inoperable cases.

7th. It often relieves pain.

As a general proposition the use of X-rays should, in my opinion, be limited to those cases which for any reason it is inadvisable or impossible to treat by ordinary methods. In other words, until our experience with X-rays extend over a longer time, their use should be a reverse method of treatment. I particularly wish to make it clear that I do not advise the use of X-rays as a substitute for operations in operable malignant growths. As regards cutaneous carcinomas—epitheliomas—I believe no strong objection is to be found to the use of X-rays as a primary method of treatment, and some advantages are to be urged for it. All other malignant neoplasm should have the advantage of operation where it is practicable. On the other hand, I believe that with the present evidence of the effect of X-rays upon malignant neoplasms we are justified in maintaining the following propositions:

1st. In all cases of malignant disease which have been operated upon there is reason to urge the subsequent use of X-rays as a prophylactic measure.

2d. In all inoperable cases of malignant disease the use of X-rays should be tried.

3d. In all such cases thereis a probability of relieving pain and a possibility of inhibiting the progess of the disease.

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